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**HL7 Implementation Guide for CDA Release 2 – Level 3: Healthcare Associated Infection Reports Release 2, DSTU Release 1.1 – US Realm**

**Volume 2 – Templates and Supporting Material**

**Update to Draft Standard for Trial Use**

**March 2014**

Publication of this draft standard for trial use and comment has been approved by Health Level Seven International (HL7). This draft standard is not an accredited American National Standard. The comment period for use of this draft standard shall end 24 months from the date of publication. Suggestions for revision should be submitted at <http://www.hl7.org/dstucomments/index.cfm>.

Following this 24 month evaluation period, this draft standard, revised as necessary, will be submitted to a normative ballot in preparation for approval by ANSI as an American National Standard. Implementations of this draft standard shall be viable throughout the normative ballot process and for up to six months after publication of the relevant normative standard.

**Sponsored by:  
Structured Documents Working Group  
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Structure of This Guide

Two volumes comprise this *HL7 Implementation Guide for CDA® Release 2: NHSN Healthcare Associated Infection (HAI) Reports*. Volume 1 provides narrative introductory and background material pertinent to this implementation guide, including information on how to understand and use the templates in Volume 2. Volume 2 contains the normative Clinical Document Architecture (CDA) templates for this guide along with lists of all templates, code systems, value sets, and, when appropriate, changes from the previous version.

Additional information in Volume 1 for the HAI implementation guide includes a summary of changes from all previous versions, document and section codes used in HAI reports, a list of Consolidated CDA (C-CDA) templates referenced by HAI templates, information and examples of non-normative identifiers, and an explanation of vocabulary heuristics for code systems and value sets used by HAI templates.

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# Document-Level Templates

Healthcare Associated Infection Report

[ClinicalDocument: identifier oid:2.16.840.1.113883.10.20.5.4.25 (open)]

This template records constraints on all NHSN Healthcare Associated Infection Reports (generic constraints). Further constraints are found in the specialization templates for single-patient and population summary reports, and in the templates for specific report types.

Annotations before some constraints provide additional information for the implementer.

Elements required by CDA that are not further constrained in this guide are not presented as HAI-specific constraints.

Note: The section on “Template Ids in this Guide” includes a containment table showing all the entries within each report type.

***Table 1: Healthcare Associated Infection Report Constraints Overview***

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| XPath | Card. | Verb | Data Type | CONF# | Value |
| ClinicalDocument (identifier: oid:2.16.840.1.113883.10.20.5.4.25) | | | | | |
| realmCode | 1..1 | SHALL |  | [18431](#C_18431) |  |
| @code | 1..1 | SHALL | CD | [18432](#C_18432) | US |
| typeId | 1..1 | SHALL |  | [18463](#C_18463) |  |
| @root | 1..1 | SHALL |  | [18464](#C_18464) | 2.16.840.1.113883.1.3 |
| @extension | 1..1 | SHALL |  | [18465](#C_18465) | POCD\_HD000040 |
| templateId | 1..1 | SHALL |  | [18460](#C_18460) |  |
| @root | 1..1 | SHALL |  | [18461](#C_18461) | 2.16.840.1.113883.10.20.5.4.25 |
| @extension | 0..0 | SHALL NOT |  | [18462](#C_18462) |  |
| id | 1..1 | SHALL |  | [18466](#C_18466) |  |
| @root | 0..1 | MAY |  | [18467](#C_18467) |  |
| @extension | 0..1 | MAY |  | [18468](#C_18468) |  |
| code | 1..1 | SHALL |  | [18433](#C_18433) |  |
| @code | 1..1 | SHALL |  | [18434](#C_18434) | 51897-7 |
| @codeSystem | 1..1 | SHALL |  | [27413](#C_27413) | 2.16.840.1.113883.6.1 (LOINC) |
| title | 1..1 | SHALL |  | [18435](#C_18435) |  |
| effectiveTime | 1..1 | SHALL |  | [18436](#C_18436) |  |
| confidentialityCode | 1..1 | SHALL |  | [18437](#C_18437) |  |
| @code | 1..1 | SHALL | CD | [18438](#C_18438) | 2.16.840.1.113883.5.25 (ConfidentialityCode) = N |
| languageCode | 1..1 | SHALL |  | [18439](#C_18439) |  |
| @code | 1..1 | SHALL |  | [18440](#C_18440) | en-US |
| setId | 1..1 | SHALL |  | [18441](#C_18441) |  |
| versionNumber | 1..1 | SHALL |  | [18442](#C_18442) |  |
| recordTarget | 1..\* | SHALL |  | [18472](#C_18472) |  |
| author | 1..\* | SHALL |  | [18473](#C_18473) |  |
| custodian | 1..1 | SHALL |  | [18443](#C_18443) |  |
| assignedCustodian | 1..1 | SHALL |  | [18444](#C_18444) |  |
| representedCustodianOrganization | 1..1 | SHALL |  | [18445](#C_18445) |  |
| id | 1..1 | SHALL |  | [18446](#C_18446) |  |
| @root | 1..1 | SHALL |  | [18447](#C_18447) | 2.16.840.1.114222.4.3.2.11 |
| legalAuthenticator | 0..1 | SHOULD |  | [18474](#C_18474) |  |
| relatedDocument | 0..\* | MAY |  | [18469](#C_18469) |  |
| @typeCode | 1..1 | SHALL |  | [18470](#C_18470) | 2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = RPLC |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| component | 1..1 | SHALL |  | [18448](#C_18448) |  |
| structuredBody | 1..1 | SHALL |  | [18449](#C_18449) |  |
| component | 1..\* | SHALL |  | [18475](#C_18475) |  |

1. SHALL contain exactly one [1..1] realmCode (CONF:18431).
   1. This realmCode SHALL contain exactly one [1..1] @code="US" (CONF:18432).
2. SHALL contain exactly one [1..1] typeId (CONF:18463).
   1. This typeId SHALL contain exactly one [1..1] @root="2.16.840.1.113883.1.3" (CONF:18464).
   2. This typeId SHALL contain exactly one [1..1] @extension="POCD\_HD000040" (CONF:18465).
3. SHALL contain exactly one [1..1] templateId (CONF:18460) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.4.25" (CONF:18461).
   2. SHALL NOT contain [0..0] @extension (CONF:18462).

CDA requires a ClinicalDocument/id element representing a unique identifier for the document. The id may be represented by either @root or @root plus @extension, so long as the resulting id is globally unique.

CDA provides id, setId, versionNumber, and relatedDocument elements to support succession management (document versioning).

The id element identifies the CDA document instance (the electronic file). It is independent of the setId and versionNumber elements.

1. SHALL contain exactly one [1..1] id (CONF:18466).
   1. This id MAY contain zero or one [0..1] @root (CONF:18467).
   2. This id MAY contain zero or one [0..1] @extension (CONF:18468).
2. SHALL contain exactly one [1..1] code (CONF:18433).
   1. This code SHALL contain exactly one [1..1] @code="51897-7" Healthcare Associated Infection Report (CONF:18434).
   2. This code SHALL contain exactly one [1..1] @codeSystem (CodeSystem: LOINC 2.16.840.1.113883.6.1) (CONF:27413).

The preferred title content for each report type is given with the constraints for each report type.

1. SHALL contain exactly one [1..1] title (CONF:18435).
2. SHALL contain exactly one [1..1] effectiveTime (CONF:18436).

CDA requires a confidentiality code that indicates the sensitivity of the document. All HAI submissions carry the same value of "normal". Note that this designation does not affect local policy on safeguarding confidentiality of patient-identifiable personal health information.

1. SHALL contain exactly one [1..1] confidentialityCode (CONF:18437).
   1. This confidentialityCode SHALL contain exactly one [1..1] @code="N" Normal (CodeSystem: ConfidentialityCode 2.16.840.1.113883.5.25 STATIC) (CONF:18438).
2. SHALL contain exactly one [1..1] languageCode (CONF:18439).
   1. This languageCode SHALL contain exactly one [1..1] @code="en-US" (CONF:18440).
3. SHALL contain exactly one [1..1] setId (CONF:18441).
4. SHALL contain exactly one [1..1] versionNumber (CONF:18442).

CDA requires a recordTarget element that must contain a patientRole element. This is represented differently in single-person and population summary reports. See the templates for generic single-person and population summary reports for details of how to represent the patient or group subject.

1. SHALL contain at least one [1..\*] recordTarget (CONF:18472).

In a single-person report, the author may be software or may be a person in the role of infection control professional (ICP). In a population summary report, the author will be the software forming the message. The effect of the CDA Release 2.0 requirements is:

An author element shall be present. The author element shall contain a time element that represents the time of authoring of the information, and an assignedAuthor element that represents the author of the information. The assignedAuthor element shall contain an id element. (from CDA R2)

When the report author is vendor software, it can record the software installation id, an email address, and the vendor name.

1. SHALL contain at least one [1..\*] author (CONF:18473).

CDA requires that the document custodian be recorded. The NHSN is the custodian of NHSN HAI Reports.

1. SHALL contain exactly one [1..1] custodian (CONF:18443).
   1. This custodian SHALL contain exactly one [1..1] assignedCustodian (CONF:18444).
      1. This assignedCustodian SHALL contain exactly one [1..1] representedCustodianOrganization (CONF:18445).
         1. This representedCustodianOrganization SHALL contain exactly one [1..1] id (CONF:18446).
            1. This id SHALL contain exactly one [1..1] @root="2.16.840.1.114222.4.3.2.11" (CONF:18447).

CDA requires that a legalAuthenticator element be present if the document has been legally authenticated. Local policy may delegate the function of legal authentication to a device or system that generates the CDA document.  In these cases, the legal authenticator must still be a person accepting responsibility for the document content, not the device or system. The effect of the CDA Release 2.0 requirements is:

The legalAuthenticator element shall contain a time element that represents the time of authentication of the document, a signatureCode element where the value of @code is S, and an assignedEntity element that represents the authenticator of the document. The assignedEntity element shall contain an id element. (from CDA R2)

HAI Reports are not signed reports and do not require a legalAuthenticator.

1. SHOULD contain zero or one [0..1] legalAuthenticator (CONF:18474).
2. MAY contain zero or more [0..\*] relatedDocument (CONF:18469).
   1. The relatedDocument, if present, SHALL contain exactly one [1..1] @typeCode="RPLC" replace (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002 STATIC) (CONF:18470).
   2. If versionNumber/@value is greater than 1, a relatedDocument element SHALL be present (CONF:18471).
3. SHALL contain exactly one [1..1] component (CONF:18448).
   1. This component SHALL contain exactly one [1..1] structuredBody (CONF:18449).
      1. This structuredBody SHALL contain at least one [1..\*] component (CONF:18475).
      2. The structuredBody element SHALL contain a component element for each section required by the particular report type. Additional sections may be present but their content will not be processed by NHSN (CONF:18450).

HAI Population Summary Report Generic Constraints

[ClinicalDocument: identifier oid:2.16.840.1.113883.10.20.5.4.28 (open)]

A Population Summary Report records summary data for a group, such as the patients in a particular ward, during a specified period. This report type differs in several ways from the HAI single-person reports.

These report types are used to record many different data sets. The basic structure of the body templates for this report type are:

   •  A Summary Data Section

      o  A Summary Encounter records the location to which the data pertain

      o  Various Summary Data Observations record data as code/value pairs

A population-summary report must conform to the Healthcare Associated Infection Report above. In addition:

   •  The patient identifier (required by CDA) is recorded with a nullFlavor.

   •  A participant element records that the subject of the report is a group.

   •  A second participant element records the reporting facility.  (The in-facility unit identifier and type to which the data pertain are recorded in the Summary Encounter Section of the document body.)

   •  In the documentationOf/serviceEvent element,

      o  The effectiveTime element records the first and last days of the period reported.

      o  The code element records the type of summary data reported. This corresponds to the NHSN form type.

The data set being reported is identified by a code in the CDA header; for example, the cdcNHSN concept “1880-4” identifies the data set “Summary data reporting catheter and ventilator use in a NICU”. The codes for these data sets are listed in value set NHSNPopulationSummaryReportTypeCode (2.16.840.1.114222.4.11.3595).

Note that a few data sets are stratified. For example, the NICU (Neonatal Intensive Care Unit) data set is stratified by birthweight; the Antimicrobial Usage data set is stratified by antimicrobial and by route of administration. The stratifying factor is recorded as a CDA element in the Summary Encounter or Summary Data Observation. For example, in an Antimicrobial Use report, the antimicrobial information is represented as a participant. The requirements for each data set are provided in the relevant Summary Data Observation.

Most of the concepts reported are defined for the NHSN protocol and are not expected to see widespread external use: the codes for these concepts come from the NHSN code system.

Key encounter data:

   •  Facility identifier is required. This represents the reporting facility; the location to which the data pertain, such as a unit, is recorded with the data in the Summary Encounter.

   •  A code identifying the data set is required.

   •  The period reported is required.

Note: The section on “Template Ids in this Guide” includes a containment table showing all the entries within each report type.

Table 2: HAI Population Summary Report Generic Constraints Constraints Overview

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| XPath | Card. | Verb | Data Type | CONF# | Value |
| ClinicalDocument (identifier: oid:2.16.840.1.113883.10.20.5.4.28) | | | | | |
| templateId | 1..1 | SHALL |  | [22431](#C_22431) |  |
| @root | 1..1 | SHALL |  | [22432](#C_22432) | 2.16.840.1.113883.10.20.5.4.28 |
| recordTarget | 1..1 | SHALL |  | [22433](#C_22433) |  |
| patientRole | 1..1 | SHALL |  | [22434](#C_22434) |  |
| id | 1..1 | SHALL |  | [22435](#C_22435) |  |
| @nullFlavor | 1..1 | SHALL |  | [22436](#C_22436) | NA |
| participant | 1..1 | SHALL |  | [22437](#C_22437) |  |
| @typeCode | 1..1 | SHALL |  | [22438](#C_22438) | 2.16.840.1.113883.5.90 (HL7ParticipationType) = SBJ |
| @contextControlCode | 1..1 | SHALL | CS | [22439](#C_22439) | 2.16.840.1.113883.5.1057 (HL7 Context Control Code) = OP |
| associatedEntity | 1..1 | SHALL |  | [22440](#C_22440) |  |
| @classCode | 1..1 | SHALL |  | [22441](#C_22441) | 2.16.840.1.113883.5.41 (EntityClass) = PRS |
| code | 1..1 | SHALL |  | [22442](#C_22442) |  |
| @code | 1..1 | SHALL |  | [22443](#C_22443) | 2.16.840.1.113883.6.96 (SNOMED CT) = 389109008 |
| participant | 1..1 | SHALL |  | [22444](#C_22444) |  |
| @typeCode | 1..1 | SHALL |  | [22445](#C_22445) | 2.16.840.1.113883.5.90 (HL7ParticipationType) = LOC |
| @contextControlCode | 1..1 | SHALL | CS | [22446](#C_22446) | 2.16.840.1.113883.5.1057 (HL7 Context Control Code) = OP |
| associatedEntity | 1..1 | SHALL |  | [22447](#C_22447) |  |
| @classCode | 1..1 | SHALL |  | [22448](#C_22448) | 2.16.840.1.113883.5.110 (RoleClass) = SDLOC |
| id | 1..1 | SHALL |  | [22449](#C_22449) |  |
| @root | 1..1 | SHALL |  | [22450](#C_22450) |  |
| documentationOf | 1..1 | SHALL |  | [22451](#C_22451) |  |
| serviceEvent | 1..1 | SHALL |  | [22452](#C_22452) |  |
| @classCode | 1..1 | SHALL |  | [22453](#C_22453) | 2.16.840.1.113883.5.6 (HL7ActClass) = CASE |
| code | 1..1 | SHALL |  | [22454](#C_22454) | 2.16.840.1.114222.4.11.3595 (NHSNPopulationSummaryReportTypeCode) |
| effectiveTime | 1..1 | SHALL |  | [22456](#C_22456) |  |
| low | 1..1 | SHALL |  | [22457](#C_22457) |  |
| high | 1..1 | SHALL |  | [22458](#C_22458) |  |

1. Conforms to [Healthcare Associated Infection Report](#D_Healthcare_Associated_Infection_Repor) template (identifier: oid:2.16.840.1.113883.10.20.5.4.25).
2. SHALL contain exactly one [1..1] templateId (CONF:22431) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.4.28" (CONF:22432).
3. SHALL contain exactly one [1..1] recordTarget (CONF:22433).
   1. This recordTarget SHALL contain exactly one [1..1] patientRole (CONF:22434).
      1. This patientRole SHALL contain exactly one [1..1] id (CONF:22435).
         1. This id SHALL contain exactly one [1..1] @nullFlavor="NA" not applicable (CONF:22436).
4. SHALL contain exactly one [1..1] participant (CONF:22437) such that it
   1. SHALL contain exactly one [1..1] @typeCode="SBJ" Subject (CodeSystem: HL7ParticipationType 2.16.840.1.113883.5.90 STATIC) (CONF:22438).
   2. SHALL contain exactly one [1..1] @contextControlCode="OP" (CodeSystem: HL7 Context Control Code 2.16.840.1.113883.5.1057 STATIC) (CONF:22439).
   3. SHALL contain exactly one [1..1] associatedEntity (CONF:22440).
      1. This associatedEntity SHALL contain exactly one [1..1] @classCode="PRS" Person (CodeSystem: EntityClass 2.16.840.1.113883.5.41 STATIC) (CONF:22441).
      2. This associatedEntity SHALL contain exactly one [1..1] code (CONF:22442).
         1. This code SHALL contain exactly one [1..1] @code="389109008" Group (CodeSystem: SNOMED CT 2.16.840.1.113883.6.96 STATIC) (CONF:22443).
5. SHALL contain exactly one [1..1] participant (CONF:22444) such that it
   1. SHALL contain exactly one [1..1] @typeCode="LOC" Location (CodeSystem: HL7ParticipationType 2.16.840.1.113883.5.90 STATIC) (CONF:22445).
   2. SHALL contain exactly one [1..1] @contextControlCode="OP" (CodeSystem: HL7 Context Control Code 2.16.840.1.113883.5.1057 STATIC) (CONF:22446).
   3. SHALL contain exactly one [1..1] associatedEntity (CONF:22447).
      1. This associatedEntity SHALL contain exactly one [1..1] @classCode="SDLOC" Service delivery location (CodeSystem: RoleClass 2.16.840.1.113883.5.110 STATIC) (CONF:22448).
      2. This associatedEntity SHALL contain exactly one [1..1] id (CONF:22449).
         1. This id SHALL contain exactly one [1..1] @root (CONF:22450).
6. SHALL contain exactly one [1..1] documentationOf (CONF:22451).
   1. This documentationOf SHALL contain exactly one [1..1] serviceEvent (CONF:22452).
      1. This serviceEvent SHALL contain exactly one [1..1] @classCode="CASE" (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 STATIC) (CONF:22453).
      2. This serviceEvent SHALL contain exactly one [1..1] code, which SHALL be selected from ValueSet [NHSNPopulationSummaryReportTypeCode](#NHSNPopulationSummaryReportTypeCode) 2.16.840.1.114222.4.11.3595 STATIC (CONF:22454).
      3. This serviceEvent SHALL contain exactly one [1..1] effectiveTime (CONF:22456).
         1. This effectiveTime SHALL contain exactly one [1..1] low (CONF:22457).
         2. This effectiveTime SHALL contain exactly one [1..1] high (CONF:22458).
7. The author SHALL represent the software forming the message (CONF:22459).

Table 3: NHSNPopulationSummaryReportTypeCode

|  |  |  |  |
| --- | --- | --- | --- |
| Value Set: NHSNPopulationSummaryReportTypeCode 2.16.840.1.114222.4.11.3595  Code System: cdcNHSN 2.16.840.1.113883.6.277 | | | |
| Code | Code System | Code System OID | Print Name |
| 1879-6 | cdcNHSN | 2.16.840.1.113883.6.277 | Summary data reporting catheter and ventilator use in a ICU/Other |
| 1880-4 | cdcNHSN | 2.16.840.1.113883.6.277 | Summary data reporting catheter and ventilator use in a SCA |
| 1881-2 | cdcNHSN | 2.16.840.1.113883.6.277 | Summary data reporting catheter and ventilator use in a NICU |
| 1884-6 | cdcNHSN | 2.16.840.1.113883.6.277 | Summary data reporting Active Surveillance Testing |
| 2316-8 | cdcNHSN | 2.16.840.1.113883.6.277 | Summary data reporting vascular access types for chronic hemodialysis patients |
| 1887-9 | cdcNHSN | 2.16.840.1.113883.6.277 | Summary data reporting Antimicrobial Usage |
| 2410-9 | cdcNHSN | 2.16.840.1.113883.6.277 | Summary data reporting antimicrobial resistance patterns at a facility |
| ... | | | |

Antimicrobial Resistance Option (ARO) Summary Report

[ClinicalDocument: identifier oid:2.16.840.1.113883.10.20.5.46 (closed)]

Table 4: Antimicrobial Resistance Option (ARO) Summary Report Contexts

| Contained By: | Contains: |
| --- | --- |
|  | [Summary Data Section (ARO)](#Summary_Data_Section_ARO) |

Note: The section on “Template Ids in this Guide” includes a containment table showing all the entries within each report type.

The required title for the CDA document is “Denominator for Antimicrobial Resistance Option (ARO)”. The tables below show the data required at the time of publication.

The ARO Report extends the simple pattern for Summary Encounter. Required data elements are recorded as entries within the Summary Encounter, with a specified location of 'Facility Wide Inpatient'.

Table 5: Antimicrobial Resistance Option (ARO) Summary Report Constraints Overview

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| XPath | Card. | Verb | Data Type | CONF# | Value |
| ClinicalDocument (identifier: oid:2.16.840.1.113883.10.20.5.46) | | | | | |
| templateId | 1..1 | SHALL |  | [28301](#C_28301) |  |
| @root | 1..1 | SHALL |  | [28302](#C_28302) | 2.16.840.1.113883.10.20.5.7.1 |
| templateId | 1..1 | SHALL |  | [22969](#C_22969) |  |
| @root | 1..1 | SHALL |  | [2970](#C_2970) | 2.16.840.1.113883.10.20.5.46 |
| title | 1..1 | SHALL |  | [22971](#C_22971) | Denominator for Antimicrobial Resistance Option (ARO) |
| documentationOf | 1..1 | SHALL |  | [22972](#C_22972) |  |
| serviceEvent | 1..1 | SHALL |  | [22973](#C_22973) |  |
| code | 1..1 | SHALL |  | [22974](#C_22974) |  |
| @code | 1..1 | SHALL |  | [22975](#C_22975) | 2410-9 |
| @codeSystem | 1..1 | SHALL |  | [22976](#C_22976) | 2.16.840.1.113883.6.277 (cdcNHSN) = 2.16.840.1.113883.6.277 |
| component | 1..1 | SHALL |  | [22977](#C_22977) |  |
| structuredBody | 1..1 | SHALL |  | [22978](#C_22978) |  |
| component | 1..1 | SHALL |  | [22979](#C_22979) |  |
| section | 1..1 | SHALL |  | [22980](#C_22980) | [Summary Data Section (ARO) (identifier: oid:2.16.840.1.113883.10.20.5.5.52](#Summary_Data_Section_ARO) |

1. Conforms to [HAI Population Summary Report Generic Constraints](#D_HAI_Population_Summary_Report_Generic) template (identifier: oid:2.16.840.1.113883.10.20.5.4.28).

This template id represents the IG in which this template is published.

1. SHALL contain exactly one [1..1] templateId (CONF:28301) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.7.1" (CONF:28302).
2. SHALL contain exactly one [1..1] templateId (CONF:22969) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.46" (CONF:2970).
3. SHALL contain exactly one [1..1] title="Denominator for Antimicrobial Resistance Option (ARO)" (CONF:22971).
4. SHALL contain exactly one [1..1] documentationOf (CONF:22972).
   1. This documentationOf SHALL contain exactly one [1..1] serviceEvent (CONF:22973).
      1. This serviceEvent SHALL contain exactly one [1..1] code (CONF:22974).
         1. This code SHALL contain exactly one [1..1] @code="2410-9" Summary data reporting antimicrobial resistance patterns at a facility (CONF:22975).
         2. This code SHALL contain exactly one [1..1] @codeSystem="2.16.840.1.113883.6.277" (CodeSystem: cdcNHSN 2.16.840.1.113883.6.277) (CONF:22976).
5. SHALL contain exactly one [1..1] component (CONF:22977).
   1. This component SHALL contain exactly one [1..1] structuredBody (CONF:22978).
      1. This structuredBody SHALL contain exactly one [1..1] component (CONF:22979).
         1. This component SHALL contain exactly one [1..1] [Summary Data Section (ARO)](#Summary_Data_Section_ARO) (identifier: oid:2.16.840.1.113883.10.20.5.5.52) (CONF:22980).

Antimicrobial Use (AUP) Summary Report

[ClinicalDocument: identifier oid:2.16.840.1.113883.10.20.5.44 (closed)]

Table 6: Antimicrobial Use (AUP) Summary Report Contexts

| Contained By: | Contains: |
| --- | --- |
|  | [Summary Data Section (AUP)](#S_Summary_Data_Section_AUP) |

Note: The section on “Template Ids in this Guide” includes a containment table showing all the entries within each report type.

The required title for the CDA document is the “Antimicrobial Use, Pharmacy Option (AUP) Summary Report”.

NHSN reporting requires:

   •  Patient presence:

      o  If the reporting location is a single unit such as a ward, Number of Patient-Present Days, or

      o  If the encounter location is facility-wide rather than a single unit, Number of Admissions and Number of Patient-present Days.

   •  Antimicrobial usage: for each antimicrobial reported,

      o  Number of Therapy Days for the antimicrobial (this is not a simple total of the stratified data; consult the NHSN protocol for the calculation)

      o  Number of Therapy Days for the antimicrobial stratified by route of actual administration (four observations, one for each route)

Table 7: Antimicrobial Use (AUP) Summary Report Constraints Overview

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| XPath | Card. | Verb | Data Type | CONF# | Value |
| ClinicalDocument (identifier: oid:2.16.840.1.113883.10.20.5.44) | | | | | |
| templateId | 1..1 | SHALL |  | [28303](#C_28303) |  |
| @root | 1..1 | SHALL |  | [28304](#C_28304) | 2.16.840.1.113883.10.20.5.7.1 |
| templateId | 1..1 | SHALL |  | [22898](#C_22898) |  |
| @root | 1..1 | SHALL |  | [22899](#C_22899) | 2.16.840.1.113883.10.20.5.44 |
| title | 1..1 | SHALL |  | [22900](#C_22900) | Antimicrobial Use, Pharmacy Option (AUP) Summary Report |
| documentationOf | 1..1 | SHALL |  | [22901](#C_22901) |  |
| serviceEvent | 1..1 | SHALL |  | [22902](#C_22902) |  |
| code | 1..1 | SHALL |  | [22903](#C_22903) |  |
| @code | 1..1 | SHALL |  | [22904](#C_22904) | 1887-9 |
| @codeSystem | 1..1 | SHALL |  | [22905](#C_22905) | 2.16.840.1.113883.6.277 (cdcNHSN) = 2.16.840.1.113883.6.277 |
| component | 1..1 | SHALL |  | [22906](#C_22906) |  |
| structuredBody | 1..1 | SHALL |  | [22907](#C_22907) |  |
| component | 1..1 | SHALL |  | [22908](#C_22908) |  |
| section | 1..1 | SHALL |  | [22909](#C_22909) | [Summary Data Section (AUP) (identifier: oid:2.16.840.1.113883.10.20.5.5.51](#S_Summary_Data_Section_AUP) |

1. Conforms to [HAI Population Summary Report Generic Constraints](#D_HAI_Population_Summary_Report_Generic) template (identifier: oid:2.16.840.1.113883.10.20.5.4.28).

This template id represents the IG in which this template is published.

1. SHALL contain exactly one [1..1] templateId (CONF:28303) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.7.1" (CONF:28304).
2. SHALL contain exactly one [1..1] templateId (CONF:22898) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.44" (CONF:22899).
3. SHALL contain exactly one [1..1] title="Antimicrobial Use, Pharmacy Option (AUP) Summary Report" (CONF:22900).
4. SHALL contain exactly one [1..1] documentationOf (CONF:22901).
   1. This documentationOf SHALL contain exactly one [1..1] serviceEvent (CONF:22902).
      1. This serviceEvent SHALL contain exactly one [1..1] code (CONF:22903).
         1. This code SHALL contain exactly one [1..1] @code="1887-9" Summary data reporting antimicrobial usage (CONF:22904).
         2. This code SHALL contain exactly one [1..1] @codeSystem="2.16.840.1.113883.6.277" (CodeSystem: cdcNHSN 2.16.840.1.113883.6.277) (CONF:22905).
5. SHALL contain exactly one [1..1] component (CONF:22906).
   1. This component SHALL contain exactly one [1..1] structuredBody (CONF:22907).
      1. This structuredBody SHALL contain exactly one [1..1] component (CONF:22908).
         1. This component SHALL contain exactly one [1..1] [Summary Data Section (AUP)](#S_Summary_Data_Section_AUP) (identifier: oid:2.16.840.1.113883.10.20.5.5.51) (CONF:22909).

Intensive Care Unit (ICU) Summary Report

[ClinicalDocument: identifier oid:2.16.840.1.113883.10.20.5.40 (closed)]

Table 8: Intensive Care Unit (ICU) Summary Report Contexts

| Contained By: | Contains: |
| --- | --- |
|  | [Summary Data Section](#S_Summary_Data_Section) |

Note: The section on “Template Ids in this Guide” includes a containment table showing all the entries within each report type.

The required title for the CDA document is “Denominator for Intensive Care Unit (ICU)/Other Locations (not NICU or SCA) Report”.

Table 9: Intensive Care Unit (ICU) Summary Report Constraints Overview

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| XPath | Card. | Verb | Data Type | CONF# | Value |
| ClinicalDocument (identifier: oid:2.16.840.1.113883.10.20.5.40) | | | | | |
| templateId | 1..1 | SHALL |  | [28321](#C_28321) |  |
| @root | 1..1 | SHALL |  | [28322](#C_28322) | 2.16.840.1.113883.10.20.5.7.1 |
| templateId | 1..1 | SHALL |  | [22793](#C_22793) |  |
| @root | 1..1 | SHALL |  | [22794](#C_22794) | 2.16.840.1.113883.10.20.5.40 |
| title | 1..1 | SHALL |  | [22799](#C_22799) | Denominator for Intensive Care Unit (ICU)/Other Locations (not NICU or SCA) Report |
| documentationOf | 1..1 | SHALL |  | [22800](#C_22800) |  |
| serviceEvent | 1..1 | SHALL |  | [22801](#C_22801) |  |
| code | 1..1 | SHALL |  | [22802](#C_22802) |  |
| @code | 1..1 | SHALL |  | [22803](#C_22803) | 1879-6 |
| @codeSystem | 1..1 | SHALL |  | [22804](#C_22804) | 2.16.840.1.113883.6.277 (cdcNHSN) = 2.16.840.1.113883.6.277 |
| component | 1..1 | SHALL |  | [22795](#C_22795) |  |
| structuredBody | 1..1 | SHALL |  | [22796](#C_22796) |  |
| component | 1..1 | SHALL |  | [22797](#C_22797) |  |
| section | 1..1 | SHALL |  | [22798](#C_22798) | [Summary Data Section (identifier: oid:2.16.840.1.113883.10.20.5.5.47](#S_Summary_Data_Section) |

1. Conforms to [HAI Population Summary Report Generic Constraints](#D_HAI_Population_Summary_Report_Generic) template (identifier: oid:2.16.840.1.113883.10.20.5.4.28).

This template id represents the IG in which this template is published.

1. SHALL contain exactly one [1..1] templateId (CONF:28321) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.7.1" (CONF:28322).
2. SHALL contain exactly one [1..1] templateId (CONF:22793) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.40" (CONF:22794).
3. SHALL contain exactly one [1..1] title="Denominator for Intensive Care Unit (ICU)/Other Locations (not NICU or SCA) Report" (CONF:22799).
4. SHALL contain exactly one [1..1] documentationOf (CONF:22800).
   1. This documentationOf SHALL contain exactly one [1..1] serviceEvent (CONF:22801).
      1. This serviceEvent SHALL contain exactly one [1..1] code (CONF:22802).
         1. This code SHALL contain exactly one [1..1] @code="1879-6" Summary data reporting catheter and ventilator use in an ICU (CONF:22803).
         2. This code SHALL contain exactly one [1..1] @codeSystem="2.16.840.1.113883.6.277" (CodeSystem: cdcNHSN 2.16.840.1.113883.6.277) (CONF:22804).
5. SHALL contain exactly one [1..1] component (CONF:22795).
   1. This component SHALL contain exactly one [1..1] structuredBody (CONF:22796).
      1. This structuredBody SHALL contain exactly one [1..1] component (CONF:22797).
         1. This component SHALL contain exactly one [1..1] [Summary Data Section](#S_Summary_Data_Section) (identifier: oid:2.16.840.1.113883.10.20.5.5.47) (CONF:22798).

Neonatal Intensive Care Unit (NICU) Summary Report

[ClinicalDocument: identifier oid:2.16.840.1.113883.10.20.5.41 (closed)]

Table 10: Neonatal Intensive Care Unit (NICU) Summary Report Contexts

| Contained By: | Contains: |
| --- | --- |
|  | [Summary Data Section (NICU)](#S_Summary_Data_Section_NICU) |

Note: The section on “Template Ids in this Guide” includes a containment table showing all the entries within each report type.

The required title for the CDA document is “Denominator for Neonatal Intensive Care Unit (NICU)”.

Table 11: Neonatal Intensive Care Unit (NICU) Summary Report Constraints Overview

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| XPath | Card. | Verb | Data Type | CONF# | Value |
| ClinicalDocument (identifier: oid:2.16.840.1.113883.10.20.5.41) | | | | | |
| templateId | 1..1 | SHALL |  | [28323](#C_28323) |  |
| @root | 1..1 | SHALL |  | [28324](#C_28324) | 2.16.840.1.113883.10.20.5.7.1 |
| templateId | 1..1 | SHALL |  | [22805](#C_22805) |  |
| @root | 1..1 | SHALL |  | [22806](#C_22806) | 2.16.840.1.113883.10.20.5.41 |
| title | 1..1 | SHALL |  | [22807](#C_22807) | Denominator for Neonatal Intensive Care Unit (NICU) |
| documentationOf | 1..1 | SHALL |  | [22808](#C_22808) |  |
| serviceEvent | 1..1 | SHALL |  | [22809](#C_22809) |  |
| code | 1..1 | SHALL |  | [22810](#C_22810) |  |
| @code | 1..1 | SHALL |  | [22811](#C_22811) | 1881-2 |
| @codeSystem | 1..1 | SHALL |  | [22812](#C_22812) | 2.16.840.1.113883.6.277 (cdcNHSN) = 2.16.840.1.113883.6.277 |
| component | 1..1 | SHALL |  | [22813](#C_22813) |  |
| structuredBody | 1..1 | SHALL |  | [22814](#C_22814) |  |
| component | 1..1 | SHALL |  | [22815](#C_22815) |  |
| section | 1..1 | SHALL |  | [22816](#C_22816) | [Summary Data Section (NICU) (identifier: oid:2.16.840.1.113883.10.20.5.5.48](#S_Summary_Data_Section_NICU) |

1. Conforms to [HAI Population Summary Report Generic Constraints](#D_HAI_Population_Summary_Report_Generic) template (identifier: oid:2.16.840.1.113883.10.20.5.4.28).

This template id represents the IG in which this template is published.

1. SHALL contain exactly one [1..1] templateId (CONF:28323) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.7.1" (CONF:28324).
2. SHALL contain exactly one [1..1] templateId (CONF:22805) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.41" (CONF:22806).
3. SHALL contain exactly one [1..1] title="Denominator for Neonatal Intensive Care Unit (NICU)" (CONF:22807).
4. SHALL contain exactly one [1..1] documentationOf (CONF:22808).
   1. This documentationOf SHALL contain exactly one [1..1] serviceEvent (CONF:22809).
      1. This serviceEvent SHALL contain exactly one [1..1] code (CONF:22810).
         1. This code SHALL contain exactly one [1..1] @code="1881-2" Summary data reporting catheter and ventilator use in a NICU (CONF:22811).
         2. This code SHALL contain exactly one [1..1] @codeSystem="2.16.840.1.113883.6.277" (CodeSystem: cdcNHSN 2.16.840.1.113883.6.277) (CONF:22812).
5. SHALL contain exactly one [1..1] component (CONF:22813).
   1. This component SHALL contain exactly one [1..1] structuredBody (CONF:22814).
      1. This structuredBody SHALL contain exactly one [1..1] component (CONF:22815).
         1. This component SHALL contain exactly one [1..1] [Summary Data Section (NICU)](#S_Summary_Data_Section_NICU) (identifier: oid:2.16.840.1.113883.10.20.5.5.48) (CONF:22816).

Prevention Process and Outcome Measures (POM) Summary Report

[ClinicalDocument: identifier oid:2.16.840.1.113883.10.20.5.43 (closed)]

Table 12: Prevention Process and Outcome Measures (POM) Summary Report Contexts

| Contained By: | Contains: |
| --- | --- |
|  | [Summary Data Section (POM)](#S_Summary_Data_Section_POM) |

The required title for the CDA document is “Prevention Process and Outcome Measures (POM) Monthly Monitoring”.

The POM Report records summary data for a location during a specified period. It can be submitted at the facility-wide level or at the unit level.

Table 13: Prevention Process and Outcome Measures (POM) Summary Report Constraints Overview

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| XPath | Card. | Verb | Data Type | CONF# | Value |
| ClinicalDocument (identifier: oid:2.16.840.1.113883.10.20.5.43) | | | | | |
| templateId | 1..1 | SHALL |  | [28325](#C_28325) |  |
| @root | 1..1 | SHALL |  | [28326](#C_28326) | 2.16.840.1.113883.10.20.5.7.1 |
| templateId | 1..1 | SHALL |  | [22886](#C_22886) |  |
| @root | 1..1 | SHALL |  | [22887](#C_22887) | 2.16.840.1.113883.10.20.5.43 |
| title | 1..1 | SHALL |  | [22888](#C_22888) | Prevention Process and Outcome Measures (POM) Monthly Monitoring |
| documentationOf | 1..1 | SHALL |  | [22889](#C_22889) |  |
| serviceEvent | 1..1 | SHALL |  | [22890](#C_22890) |  |
| code | 1..1 | SHALL |  | [22891](#C_22891) |  |
| @code | 1..1 | SHALL |  | [22892](#C_22892) | 1884-6 |
| @codeSystem | 1..1 | SHALL |  | [22893](#C_22893) | 2.16.840.1.113883.6.277 (cdcNHSN) = 2.16.840.1.113883.6.277 |
| component | 1..1 | SHALL |  | [22894](#C_22894) |  |
| structuredBody | 1..1 | SHALL |  | [22895](#C_22895) |  |
| component | 1..1 | SHALL |  | [22896](#C_22896) |  |
| section | 1..1 | SHALL |  | [22897](#C_22897) | [Summary Data Section (POM) (identifier: oid:2.16.840.1.113883.10.20.5.5.49](#S_Summary_Data_Section_POM) |

1. Conforms to [HAI Population Summary Report Generic Constraints](#D_HAI_Population_Summary_Report_Generic) template (identifier: oid:2.16.840.1.113883.10.20.5.4.28).

This template id represents the IG in which this template is published.

1. SHALL contain exactly one [1..1] templateId (CONF:28325) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.7.1" (CONF:28326).
2. SHALL contain exactly one [1..1] templateId (CONF:22886) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.43" (CONF:22887).
3. SHALL contain exactly one [1..1] title="Prevention Process and Outcome Measures (POM) Monthly Monitoring" (CONF:22888).
4. SHALL contain exactly one [1..1] documentationOf (CONF:22889).
   1. This documentationOf SHALL contain exactly one [1..1] serviceEvent (CONF:22890).
      1. This serviceEvent SHALL contain exactly one [1..1] code (CONF:22891).
         1. This code SHALL contain exactly one [1..1] @code="1884-6" Summary data reporting Active Surveillance Testing (CONF:22892).
         2. This code SHALL contain exactly one [1..1] @codeSystem="2.16.840.1.113883.6.277" (CodeSystem: cdcNHSN 2.16.840.1.113883.6.277) (CONF:22893).
5. SHALL contain exactly one [1..1] component (CONF:22894).
   1. This component SHALL contain exactly one [1..1] structuredBody (CONF:22895).
      1. This structuredBody SHALL contain exactly one [1..1] component (CONF:22896).
         1. This component SHALL contain exactly one [1..1] [Summary Data Section (POM)](#S_Summary_Data_Section_POM) (identifier: oid:2.16.840.1.113883.10.20.5.5.49) (CONF:22897).

Specialty Care Area (SCA) Summary Report

[ClinicalDocument: identifier oid:2.16.840.1.113883.10.20.5.42 (closed)]

Table 14: Specialty Care Area (SCA) Summary Report Contexts

| Contained By: | Contains: |
| --- | --- |
|  | [Summary Data Section](#S_Summary_Data_Section) |

Note: The section on “Template Ids in this Guide” includes a containment table showing all the entries within each report type.

The required title for the CDA document is “Denominator for Specialty Care Area (SCA)”.

This summary report uses the basic pattern for Summary Encounter and Summary Data Observation. Consult the NHSN protocol for which data to report.

Table 15: Specialty Care Area (SCA) Summary Report Constraints Overview

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| XPath | Card. | Verb | Data Type | CONF# | Value |
| ClinicalDocument (identifier: oid:2.16.840.1.113883.10.20.5.42) | | | | | |
| templateId | 1..1 | SHALL |  | [28327](#C_28327) |  |
| @root | 1..1 | SHALL |  | [28328](#C_28328) | 2.16.840.1.113883.10.20.5.7.1 |
| templateId | 1..1 | SHALL |  | [22843](#C_22843) |  |
| @root | 1..1 | SHALL |  | [22844](#C_22844) | 2.16.840.1.113883.10.20.5.42 |
| title | 1..1 | SHALL |  | [22845](#C_22845) | Denominator for Specialty Care Area (SCA) |
| documentationOf | 1..1 | SHALL |  | [22846](#C_22846) |  |
| serviceEvent | 1..1 | SHALL |  | [22847](#C_22847) |  |
| code | 1..1 | SHALL |  | [22848](#C_22848) |  |
| @code | 1..1 | SHALL |  | [22849](#C_22849) | 1880-4 |
| @codeSystem | 1..1 | SHALL |  | [22850](#C_22850) | 2.16.840.1.113883.6.277 (cdcNHSN) = 2.16.840.1.113883.6.277 |
| component | 1..1 | SHALL |  | [22851](#C_22851) |  |
| structuredBody | 1..1 | SHALL |  | [22852](#C_22852) |  |
| component | 1..1 | SHALL |  | [22853](#C_22853) |  |
| section | 1..1 | SHALL |  | [22854](#C_22854) | [Summary Data Section (identifier: oid:2.16.840.1.113883.10.20.5.5.47](#S_Summary_Data_Section) |

1. Conforms to [HAI Population Summary Report Generic Constraints](#D_HAI_Population_Summary_Report_Generic) template (identifier: oid:2.16.840.1.113883.10.20.5.4.28).

This template id represents the IG in which this template is published.

1. SHALL contain exactly one [1..1] templateId (CONF:28327) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.7.1" (CONF:28328).
2. SHALL contain exactly one [1..1] templateId (CONF:22843) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.42" (CONF:22844).
3. SHALL contain exactly one [1..1] title="Denominator for Specialty Care Area (SCA)" (CONF:22845).
4. SHALL contain exactly one [1..1] documentationOf (CONF:22846).
   1. This documentationOf SHALL contain exactly one [1..1] serviceEvent (CONF:22847).
      1. This serviceEvent SHALL contain exactly one [1..1] code (CONF:22848).
         1. This code SHALL contain exactly one [1..1] @code="1880-4" Summary data reporting catheter and ventilator use in a SCA (CONF:22849).
         2. This code SHALL contain exactly one [1..1] @codeSystem="2.16.840.1.113883.6.277" (CodeSystem: cdcNHSN 2.16.840.1.113883.6.277) (CONF:22850).
5. SHALL contain exactly one [1..1] component (CONF:22851).
   1. This component SHALL contain exactly one [1..1] structuredBody (CONF:22852).
      1. This structuredBody SHALL contain exactly one [1..1] component (CONF:22853).
         1. This component SHALL contain exactly one [1..1] [Summary Data Section](#S_Summary_Data_Section) (identifier: oid:2.16.840.1.113883.10.20.5.5.47) (CONF:22854).

Vascular Access Type Report (VAT) Summary Report

[ClinicalDocument: identifier oid:2.16.840.1.113883.10.20.5.45 (closed)]

Table 16: Vascular Access Type Report (VAT) Summary Report Contexts

| Contained By: | Contains: |
| --- | --- |
|  | [Summary Data Section (VAT)](#S_Summary_Data_Section_VAT) |

Note: The section on “Template Ids in this Guide” includes a containment table showing all the entries within each report type.

The required title for the CDA document is “Maintenance Hemodialysis Patients Stratified by Vascular Access Type Report”.

Table 17: Vascular Access Type Report (VAT) Summary Report Constraints Overview

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| XPath | Card. | Verb | Data Type | CONF# | Value |
| ClinicalDocument (identifier: oid:2.16.840.1.113883.10.20.5.45) | | | | | |
| templateId | 1..1 | SHALL |  | [28329](#C_28329) |  |
| @root | 1..1 | SHALL |  | [28330](#C_28330) | 2.16.840.1.113883.10.20.5.7.1 |
| templateId | 1..1 | SHALL |  | [22921](#C_22921) |  |
| @root | 1..1 | SHALL |  | [22922](#C_22922) | 2.16.840.1.113883.10.20.5.45 |
| title | 1..1 | SHALL |  | [22923](#C_22923) | Maintenance Hemodialysis Patients Stratified by Vascular Access Type Report |
| documentationOf | 1..1 | SHALL |  | [22924](#C_22924) |  |
| serviceEvent | 1..1 | SHALL |  | [22925](#C_22925) |  |
| code | 1..1 | SHALL |  | [22926](#C_22926) |  |
| @code | 1..1 | SHALL |  | [22927](#C_22927) | 2316-8 |
| @codeSystem | 1..1 | SHALL |  | [22928](#C_22928) | 2.16.840.1.113883.6.277 (cdcNHSN) = 2.16.840.1.113883.6.277 |
| component | 1..1 | SHALL |  | [22929](#C_22929) |  |
| structuredBody | 1..1 | SHALL |  | [22930](#C_22930) |  |
| component | 1..1 | SHALL |  | [22931](#C_22931) |  |
| section | 1..1 | SHALL |  | [22932](#C_22932) | [Summary Data Section (VAT) (identifier: oid:2.16.840.1.113883.10.20.5.5.50](#S_Summary_Data_Section_VAT) |

1. Conforms to [HAI Population Summary Report Generic Constraints](#D_HAI_Population_Summary_Report_Generic) template (identifier: oid:2.16.840.1.113883.10.20.5.4.28).

This template id represents the IG in which this template is published.

1. SHALL contain exactly one [1..1] templateId (CONF:28329) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.7.1" (CONF:28330).
2. SHALL contain exactly one [1..1] templateId (CONF:22921) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.45" (CONF:22922).
3. SHALL contain exactly one [1..1] title="Maintenance Hemodialysis Patients Stratified by Vascular Access Type Report" (CONF:22923).
4. SHALL contain exactly one [1..1] documentationOf (CONF:22924).
   1. This documentationOf SHALL contain exactly one [1..1] serviceEvent (CONF:22925).
      1. This serviceEvent SHALL contain exactly one [1..1] code (CONF:22926).
         1. This code SHALL contain exactly one [1..1] @code="2316-8" Summary dialysis data reporting vascular access types in maintenance (chronic) hemodialysis patients (CONF:22927).
         2. This code SHALL contain exactly one [1..1] @codeSystem="2.16.840.1.113883.6.277" (CodeSystem: cdcNHSN 2.16.840.1.113883.6.277) (CONF:22928).
5. SHALL contain exactly one [1..1] component (CONF:22929).
   1. This component SHALL contain exactly one [1..1] structuredBody (CONF:22930).
      1. This structuredBody SHALL contain exactly one [1..1] component (CONF:22931).
         1. This component SHALL contain exactly one [1..1] [Summary Data Section (VAT)](#S_Summary_Data_Section_VAT) (identifier: oid:2.16.840.1.113883.10.20.5.5.50) (CONF:22932).

HAI Single-Person Report Generic Constraints

[ClinicalDocument: identifier oid:2.16.840.1.113883.10.20.5.4.27 (open)]

This template records the constraints for HAI single-person reports. It is used by all numerator reports covered by this guide. It is also used by the Procedure Denominator Report.

A single-person report must conform to the Healthcare Associated Infection Report Normative Release 1 template above. In addition, key data about the patient are recorded in the recordTarget element.

   •  A patient identifier representing the facility-assigned patient ID is required. Other identifiers for the person can also be present, such as a United States Social Security Number (id/@root = 2.16.840.1.113883.4.1) a Medicare beneficiary identifier (id/@root = 2.16.840.1.113883.4.338), or secondary patient IDs (id/@root = the appropriate facility OID for patient IDs).

   •  The patient name is optional; consult the NHSN reporting protocol and requirements.

   •  Patient gender and birthdate are required.

The report-specific requirements specify the encounter data to record for each single-person report type. These data always include an identifier for the reporting facility, and usually include the encounter type (inpatient or outpatient), the admission date or encounter date; and the facility unit identifier and type.

Note: The section on “Template Ids in this Guide” includes a containment table showing all the entries within each report type.

Table 18: HAI Single-Person Report Generic Constraints Constraints Overview

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| XPath | Card. | Verb | Data Type | CONF# | Value |
| ClinicalDocument (identifier: oid:2.16.840.1.113883.10.20.5.4.27) | | | | | |
| templateId | 1..1 | SHALL |  | [22415](#C_22415) |  |
| @root | 1..1 | SHALL |  | [22416](#C_22416) | 2.16.840.1.113883.10.20.5.4.27 |
| recordTarget | 1..1 | SHALL |  | [22417](#C_22417) |  |
| patientRole | 1..1 | SHALL |  | [22418](#C_22418) |  |
| id | 1..\* | SHALL |  | [22419](#C_22419) |  |
| @root | 1..1 | SHALL |  | [22420](#C_22420) |  |
| @extension | 1..1 | SHALL |  | [22421](#C_22421) |  |
| patient | 1..1 | SHALL |  | [22422](#C_22422) |  |
| name | 0..1 | MAY |  | [22423](#C_22423) |  |
| administrativeGenderCode | 1..1 | SHALL |  | [22424](#C_22424) |  |
| @code | 1..1 | SHALL |  | [22425](#C_22425) | 2.16.840.1.113883.1.11.1 (Administrative Gender (HL7 V3)) |
| birthTime | 1..1 | SHALL |  | [22426](#C_22426) |  |
| @value | 1..1 | SHALL |  | [22427](#C_22427) |  |
| raceCode | 0..1 | MAY |  | [22428](#C_22428) | 2.16.840.1.114222.4.11.7232 (NHSNRaceCategory) |
| ethnicGroupCode | 0..1 | MAY |  | [22429](#C_22429) | 2.16.840.1.114222.4.11.837 (EthnicityGroup) |

1. Conforms to [Healthcare Associated Infection Report](#D_Healthcare_Associated_Infection_Repor) template (identifier: oid:2.16.840.1.113883.10.20.5.4.25).
2. SHALL contain exactly one [1..1] templateId (CONF:22415) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.4.27" (CONF:22416).
3. SHALL contain exactly one [1..1] recordTarget (CONF:22417).
   1. This recordTarget SHALL contain exactly one [1..1] patientRole (CONF:22418).
      1. This patientRole SHALL contain at least one [1..\*] id (CONF:22419).
         1. Such ids SHALL contain exactly one [1..1] @root (CONF:22420).
         2. Such ids SHALL contain exactly one [1..1] @extension (CONF:22421).
      2. This patientRole SHALL contain exactly one [1..1] patient (CONF:22422).

In the name element, the sub-elements should be in the following order: family, given, and optionally a second given representing the middle name(s). A name element is not allowed to contain mixed content.

* + - 1. This patient MAY contain zero or one [0..1] name (CONF:22423).
      2. This patient SHALL contain exactly one [1..1] administrativeGenderCode (CONF:22424).
         1. This administrativeGenderCode SHALL contain exactly one [1..1] @code, which SHALL be selected from ValueSet [Administrative Gender (HL7 V3)](#Administrative_Gender_HL7_V3) 2.16.840.1.113883.1.11.1 STATIC (CONF:22425).
      3. This patient SHALL contain exactly one [1..1] birthTime (CONF:22426).
         1. This birthTime SHALL contain exactly one [1..1] @value (CONF:22427).
      4. This patient MAY contain zero or one [0..1] raceCode, which SHALL be selected from ValueSet [NHSNRaceCategory](#NHSNRaceCategory) 2.16.840.1.114222.4.11.7232 DYNAMIC (CONF:22428).
      5. This patient MAY contain zero or one [0..1] ethnicGroupCode (ValueSet: [EthnicityGroup](#EthnicityGroup) 2.16.840.1.114222.4.11.837 STATIC) (CONF:22429).

1. The author MAY be software or MAY be a person in the role of infection control professional (ICP) (CONF:22430).

Table 19: Administrative Gender (HL7 V3)

|  |  |  |  |
| --- | --- | --- | --- |
| Value Set: Administrative Gender (HL7 V3) 2.16.840.1.113883.1.11.1  Administrative Gender based upon HL7 V3 vocabulary. This value set contains only male, female and undifferentiated concepts.  Value Set Source: <http://www.hl7.org> | | | |
| Code | Code System | Code System OID | Print Name |
| F | AdministrativeGender | 2.16.840.1.113883.5.1 | Female |
| M | AdministrativeGender | 2.16.840.1.113883.5.1 | Male |
| UN | AdministrativeGender | 2.16.840.1.113883.5.1 | Undifferentiated |

Table 20: NHSNRaceCategory

|  |  |  |  |
| --- | --- | --- | --- |
| Value Set: NHSNRaceCategory 2.16.840.1.114222.4.11.7232  Value Set Source: <https://phinvads.cdc.gov> | | | |
| Code | Code System | Code System OID | Print Name |
| 1002-5 | Race & Ethnicity - CDC | 2.16.840.1.113883.6.238 | American Indian or Alaska Native |
| 2028-9 | Race & Ethnicity - CDC | 2.16.840.1.113883.6.238 | Asian |
| 2054-5 | Race & Ethnicity - CDC | 2.16.840.1.113883.6.238 | Black or African American |
| 2076-8 | Race & Ethnicity - CDC | 2.16.840.1.113883.6.238 | Native Hawaiian or Other Pacific Islander |
| 2106-3 | Race & Ethnicity - CDC | 2.16.840.1.113883.6.238 | White |

Table 21: EthnicityGroup

|  |  |  |  |
| --- | --- | --- | --- |
| Value Set: EthnicityGroup 2.16.840.1.114222.4.11.837  Code System: Race & Ethnicity - CDC 2.16.840.1.113883.6.238  Value Set Source: <http://phinvads.cdc.gov/vads/ViewValueSet.action?id=35D34BBC-617F-DD11-B38D-00188B398520> | | | |
| Code | Code System | Code System OID | Print Name |
| 2135-2 | Race & Ethnicity - CDC | 2.16.840.1.113883.6.238 | Hispanic or Latino |
| 2186-5 | Race & Ethnicity - CDC | 2.16.840.1.113883.6.238 | Not Hispanic or Latino |

HAI AUR Antimicrobial Resistance Option (ARO) Report

[ClinicalDocument: identifier oid:2.16.840.1.113883.10.20.5.31 (closed)]

Table 22: HAI AUR Antimicrobial Resistance Option (ARO) Report Contexts

| Contained By: | Contains: |
| --- | --- |
|  | [Findings Section in an ARO Report](#S_Findings_Section_in_an_ARO_Report) |

Note: The section on “Template Ids in this Guide” includes a containment table showing all the entries within each report type.

This report records the antimicrobial susceptibility testing results for one pathogen isolate from an individual inpatient subject. Each report records a single organism.

Preferred document title: “Antimicrobial Resistance Option (ARO) Report”

Key encounter data:

   •  The encounter type (inpatient or outpatient) is required.

   •  An admission date is required.

   •  The facility identifier is required. Unit identifier and unit type are not recorded in the header.

Other dates and locations:

   •  Date of specimen collection (contained in the Findings Section in an ARO Report).

Table 23: HAI AUR Antimicrobial Resistance Option (ARO) Report Constraints Overview

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| XPath | Card. | Verb | Data Type | CONF# | Value |
| ClinicalDocument (identifier: oid:2.16.840.1.113883.10.20.5.31) | | | | | |
| templateId | 1..1 | SHALL |  | [28305](#C_28305) |  |
| @root | 1..1 | SHALL |  | [28306](#C_28306) | 2.16.840.1.113883.10.20.5.7.1 |
| templateId | 1..1 | SHALL |  | [21951](#C_21951) |  |
| @root | 1..1 | SHALL |  | [21952](#C_21952) | 2.16.840.1.113883.10.20.5.31 |
| componentOf | 1..1 | SHALL |  | [21139](#C_21139) |  |
| encompassingEncounter | 1..1 | SHALL |  | [21140](#C_21140) |  |
| code | 1..1 | SHALL |  | [21141](#C_21141) | 2.16.840.1.113883.13.1 (NHSNEncounterTypeCode) |
| effectiveTime | 1..1 | SHALL |  | [21143](#C_21143) |  |
| low | 1..1 | SHALL |  | [21144](#C_21144) |  |
| @value | 1..1 | SHALL |  | [21145](#C_21145) |  |
| location | 1..1 | SHALL |  | [21146](#C_21146) |  |
| healthCareFacility | 1..1 | SHALL |  | [21147](#C_21147) |  |
| id | 1..1 | SHALL |  | [21148](#C_21148) |  |
| @root | 1..1 | SHALL |  | [21149](#C_21149) |  |
| component | 1..1 | SHALL |  | [21150](#C_21150) |  |
| structuredBody | 1..1 | SHALL |  | [21151](#C_21151) |  |
| component | 1..1 | SHALL |  | [21152](#C_21152) |  |
| section | 1..1 | SHALL |  | [21153](#C_21153) | [Findings Section in an ARO Report (identifier: oid:2.16.840.1.113883.10.20.5.5.32](#S_Findings_Section_in_an_ARO_Report) |

1. Conforms to [HAI Single-Person Report Generic Constraints](#D_HAI_SinglePerson_Report_Generic_Const) template (identifier: oid:2.16.840.1.113883.10.20.5.4.27).

This template id represents the IG in which this template is published.

1. SHALL contain exactly one [1..1] templateId (CONF:28305) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.7.1" (CONF:28306).
2. SHALL contain exactly one [1..1] templateId (CONF:21951) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.31" (CONF:21952).
3. SHALL contain exactly one [1..1] componentOf (CONF:21139).
   1. This componentOf SHALL contain exactly one [1..1] encompassingEncounter (CONF:21140).
      1. This encompassingEncounter SHALL contain exactly one [1..1] code, which SHALL be selected from ValueSet [NHSNEncounterTypeCode](#NHSNEncounterTypeCode) 2.16.840.1.113883.13.1 STATIC (CONF:21141).
      2. This encompassingEncounter SHALL contain exactly one [1..1] effectiveTime (CONF:21143).
         1. This effectiveTime SHALL contain exactly one [1..1] low (CONF:21144).
            1. This low SHALL contain exactly one [1..1] @value (CONF:21145).  
               Note: Admission Date
         2. The value of the admission date SHALL NOT be earlier than January 1, 1986; SHALL NOT be earlier than the date of birth; and SHALL NOT be later than the event date (CONF:23358).
      3. This encompassingEncounter SHALL contain exactly one [1..1] location (CONF:21146).
         1. This location SHALL contain exactly one [1..1] healthCareFacility (CONF:21147).
            1. This healthCareFacility SHALL contain exactly one [1..1] id (CONF:21148).

This id SHALL contain exactly one [1..1] @root (CONF:21149).

1. SHALL contain exactly one [1..1] component (CONF:21150).
   1. This component SHALL contain exactly one [1..1] structuredBody (CONF:21151).
      1. This structuredBody SHALL contain exactly one [1..1] component (CONF:21152) such that it
         1. SHALL contain exactly one [1..1] [Findings Section in an ARO Report](#S_Findings_Section_in_an_ARO_Report) (identifier: oid:2.16.840.1.113883.10.20.5.5.32) (CONF:21153).

Table 24: NHSNEncounterTypeCode

|  |  |  |  |
| --- | --- | --- | --- |
| Value Set: NHSNEncounterTypeCode 2.16.840.1.113883.13.1  Code System: HL7 ActCode 2.16.840.1.113883.5.4 | | | |
| Code | Code System | Code System OID | Print Name |
| AMB | ActCode | 2.16.840.1.113883.5.4 | Outpatient |
| IMP | ActCode | 2.16.840.1.113883.5.4 | Inpatient |

HAI Bloodstream Infection Report (BSI)

[ClinicalDocument: identifier oid:2.16.840.1.113883.10.20.5.32 (closed)]

Table 25: HAI Bloodstream Infection Report (BSI) Contexts

| Contained By: | Contains: |
| --- | --- |
|  | [Findings Section in an Infection-Type Report](#S_Findings_Section_in_an_InfectionType_)  [Infection Details Section in a BSI Report](#S_Infection_Details_Section_in_a_BSI_Re)  [Infection Risk Factors Section in a BSI Report](#S_Infection_Risk_Factors_Section_in_a_B) |

Note: The section on “Template Ids in this Guide” includes a containment table showing all the entries within each report type.

This report type records a bloodstream infection event.

Preferred document title: “Bloodstream Infection Report (BSI)”

Key encounter data:

   •  A value for admission date is required.

   •  A value for discharge date may be recorded.

   •  The facility id, unit identifier, and unit type are required.

Other dates and locations:

   •  The date of the infection event is recorded as effectiveTime in the Infection Type Observation.

Table 26: HAI Bloodstream Infection Report (BSI) Constraints Overview

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| XPath | Card. | Verb | Data Type | CONF# | Value |
| ClinicalDocument (identifier: oid:2.16.840.1.113883.10.20.5.32) | | | | | |
| templateId | 1..1 | SHALL |  | [28307](#C_28307) |  |
| @root | 1..1 | SHALL |  | [28308](#C_28308) | 2.16.840.1.113883.10.20.5.7.1 |
| templateId | 1..1 | SHALL |  | [22460](#C_22460) |  |
| @root | 1..1 | SHALL |  | [22461](#C_22461) | 2.16.840.1.113883.10.20.5.32 |
| componentOf | 1..1 | SHALL |  | [22462](#C_22462) |  |
| encompassingEncounter | 1..1 | SHALL |  | [22463](#C_22463) |  |
| effectiveTime | 1..1 | SHALL |  | [22464](#C_22464) |  |
| low | 1..1 | SHALL |  | [22465](#C_22465) |  |
| @value | 1..1 | SHALL |  | [22466](#C_22466) |  |
| high | 0..1 | MAY |  | [22467](#C_22467) |  |
| @value | 1..1 | SHALL |  | [22468](#C_22468) |  |
| location | 1..1 | SHALL |  | [22469](#C_22469) |  |
| healthCareFacility | 1..1 | SHALL |  | [22470](#C_22470) |  |
| id | 1..1 | SHALL |  | [22471](#C_22471) |  |
| @root | 1..1 | SHALL |  | [22472](#C_22472) |  |
| @extension | 1..1 | SHALL |  | [22473](#C_22473) |  |
| code | 1..1 | SHALL |  | [22474](#C_22474) | 2.16.840.1.113883.13.19 (NHSNHealthcareServiceLocationCode) |
| component | 1..1 | SHALL |  | [22476](#C_22476) |  |
| structuredBody | 1..1 | SHALL |  | [22477](#C_22477) |  |
| component | 1..1 | SHALL |  | [22478](#C_22478) |  |
| section | 1..1 | SHALL |  | [22479](#C_22479) | [Infection Risk Factors Section in a BSI Report (identifier: oid:2.16.840.1.113883.10.20.5.5.33](#S_Infection_Risk_Factors_Section_in_a_B) |
| component | 1..1 | SHALL |  | [22480](#C_22480) |  |
| section | 1..1 | SHALL |  | [22481](#C_22481) | [Infection Details Section in a BSI Report (identifier: oid:2.16.840.1.113883.10.20.5.5.38](#S_Infection_Details_Section_in_a_BSI_Re) |
| component | 1..1 | SHALL |  | [22482](#C_22482) |  |
| section | 1..1 | SHALL |  | [22483](#C_22483) | [Findings Section in an Infection-Type Report (identifier: oid:2.16.840.1.113883.10.20.5.5.45](#S_Findings_Section_in_an_InfectionType_) |

1. Conforms to [HAI Single-Person Report Generic Constraints](#D_HAI_SinglePerson_Report_Generic_Const) template (identifier: oid:2.16.840.1.113883.10.20.5.4.27).

This template id represents the IG in which this template is published.

1. SHALL contain exactly one [1..1] templateId (CONF:28307) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.7.1" (CONF:28308).
2. SHALL contain exactly one [1..1] templateId (CONF:22460) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.32" (CONF:22461).
3. SHALL contain exactly one [1..1] componentOf (CONF:22462).
   1. This componentOf SHALL contain exactly one [1..1] encompassingEncounter (CONF:22463).
      1. This encompassingEncounter SHALL contain exactly one [1..1] effectiveTime (CONF:22464).
         1. This effectiveTime SHALL contain exactly one [1..1] low (CONF:22465).
            1. This low SHALL contain exactly one [1..1] @value (CONF:22466).  
               Note: Admission Date
         2. This effectiveTime MAY contain zero or one [0..1] high (CONF:22467).
            1. The high, if present, SHALL contain exactly one [1..1] @value (CONF:22468).  
               Note: Discharge Date
         3. The value of the admission date SHALL NOT be earlier than January 1, 1986; SHALL NOT be earlier than the date of birth; and SHALL NOT be later than the event date (CONF:23359).
      2. This encompassingEncounter SHALL contain exactly one [1..1] location (CONF:22469).
         1. This location SHALL contain exactly one [1..1] healthCareFacility (CONF:22470).
            1. This healthCareFacility SHALL contain exactly one [1..1] id (CONF:22471).

This id SHALL contain exactly one [1..1] @root (CONF:22472).

The value of healthCareFacility/id/@extension must be a value previously registered with NHSN.

This id SHALL contain exactly one [1..1] @extension (CONF:22473).

* + - * 1. This healthCareFacility SHALL contain exactly one [1..1] code, which SHALL be selected from ValueSet [NHSNHealthcareServiceLocationCode](#NHSNHealthcareServiceLocationCode) 2.16.840.1.113883.13.19 DYNAMIC (CONF:22474).

1. SHALL contain exactly one [1..1] component (CONF:22476).
   1. This component SHALL contain exactly one [1..1] structuredBody (CONF:22477).
      1. This structuredBody SHALL contain exactly one [1..1] component (CONF:22478) such that it
         1. SHALL contain exactly one [1..1] [Infection Risk Factors Section in a BSI Report](#S_Infection_Risk_Factors_Section_in_a_B) (identifier: oid:2.16.840.1.113883.10.20.5.5.33) (CONF:22479).
      2. This structuredBody SHALL contain exactly one [1..1] component (CONF:22480) such that it
         1. SHALL contain exactly one [1..1] [Infection Details Section in a BSI Report](#S_Infection_Details_Section_in_a_BSI_Re) (identifier: oid:2.16.840.1.113883.10.20.5.5.38) (CONF:22481).
      3. This structuredBody SHALL contain exactly one [1..1] component (CONF:22482) such that it
         1. SHALL contain exactly one [1..1] [Findings Section in an Infection-Type Report](#S_Findings_Section_in_an_InfectionType_) (identifier: oid:2.16.840.1.113883.10.20.5.5.45) (CONF:22483).

Table 27: NHSNHealthcareServiceLocationCode

|  |  |  |  |
| --- | --- | --- | --- |
| Value Set: NHSNHealthcareServiceLocationCode 2.16.840.1.113883.13.19  Code System: HL7 HealthcareServiceLocation 2.16.840.1.113883.6.259 or cdcNHSN 2.16.840.1.113883.6.277 | | | |
| Code | Code System | Code System OID | Print Name |
| 1250-0 | HL7 HealthcareServiceLocation | 2.16.840.1.113883.6.259 | All Inpatient Locations [FACWIDEIN] |
| 1251-8 | HL7 HealthcareServiceLocation | 2.16.840.1.113883.6.259 | All Outpatient Locations [FACWIDEOUT] |
| 1025-6 | HL7 HealthcareServiceLocation | 2.16.840.1.113883.6.259 | Trauma Critical Care |
| 1026-4 | HL7 HealthcareServiceLocation | 2.16.840.1.113883.6.259 | Burn Critical Care |
| 1027-2 | HL7 HealthcareServiceLocation | 2.16.840.1.113883.6.259 | Medical Critical Care |
| 1028-0 | HL7 HealthcareServiceLocation | 2.16.840.1.113883.6.259 | Medical Cardiac Critical Care |
| 1029-8 | HL7 HealthcareServiceLocation | 2.16.840.1.113883.6.259 | Medical/Surgical Critical Care |
| 1030-6 | HL7 HealthcareServiceLocation | 2.16.840.1.113883.6.259 | Surgical Critical Care |
| 1031-4 | HL7 HealthcareServiceLocation | 2.16.840.1.113883.6.259 | Neurosurgical Critical Care |
| 1032-2 | HL7 HealthcareServiceLocation | 2.16.840.1.113883.6.259 | Surgical Cardiothoracic Critical Care |
| 1033-0 | HL7 HealthcareServiceLocation | 2.16.840.1.113883.6.259 | Respiratory Critical Care |
| 1034-8 | HL7 HealthcareServiceLocation | 2.16.840.1.113883.6.259 | Prenatal Critical Care |
| 1035-5 | HL7 HealthcareServiceLocation | 2.16.840.1.113883.6.259 | Neurologic Critical Care |
| 1038-9 | HL7 HealthcareServiceLocation | 2.16.840.1.113883.6.259 | Inpatient Well Baby Nursery (Level I) |
| 1039-7 | HL7 HealthcareServiceLocation | 2.16.840.1.113883.6.259 | Neonatal Critical Care(Level II/III) |
| 1040-5 | HL7 HealthcareServiceLocation | 2.16.840.1.113883.6.259 | Neonatal Critical Care (Level III) |
| 1041-3 | HL7 HealthcareServiceLocation | 2.16.840.1.113883.6.259 | Step down Neonatal ICU (Level II) |
| 1042-1 | HL7 HealthcareServiceLocation | 2.16.840.1.113883.6.259 | Pediatric Burn Critical Care |
| 1043-9 | HL7 HealthcareServiceLocation | 2.16.840.1.113883.6.259 | Pediatric Cardiothoracic Critical Care |
| 1044-7 | HL7 HealthcareServiceLocation | 2.16.840.1.113883.6.259 | Pediatric Medical Critical Care |
| ... | | | |

HAI Central-Line Insertion Practice Numerator Report

[ClinicalDocument: identifier oid:2.16.840.1.113883.10.20.5.36 (closed)]

Table 28: HAI Central-Line Insertion Practice Numerator Report Contexts

| Contained By: | Contains: |
| --- | --- |
|  | [Infection Risk Factors Section in a CLIP Report](#S_Infection_Risk_Factors_Section_in_a_C)  [Procedure Details Section in a CLIP Report](#S_Procedure_Details_Section_in_a_CLIP_R) |

Note: The section on “Template Ids in this Guide” includes a containment table showing all the entries within each report type.

This report records whether the steps in a central-line insertion practice protocol were followed in the required order.

Preferred document title:  “Central-line Insertion Practices (CLIP) Report”

Key encounter data:

   •  Admission date is recorded as nullFlavor NI (no information).

   •  Facility id, unit identifier, and unit type are required.

Other dates and locations: None

Table 29: HAI Central-Line Insertion Practice Numerator Report Constraints Overview

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| XPath | Card. | Verb | Data Type | CONF# | Value |
| ClinicalDocument (identifier: oid:2.16.840.1.113883.10.20.5.36) | | | | | |
| templateId | 1..1 | SHALL |  | [28309](#C_28309) |  |
| @root | 1..1 | SHALL |  | [28310](#C_28310) | 2.16.840.1.113883.10.20.5.7.1 |
| templateId | 1..1 | SHALL |  | [22553](#C_22553) |  |
| @root | 1..1 | SHALL |  | [22554](#C_22554) | 2.16.840.1.113883.10.20.5.36 |
| componentOf | 1..1 | SHALL |  | [22555](#C_22555) |  |
| encompassingEncounter | 1..1 | SHALL |  | [22556](#C_22556) |  |
| effectiveTime | 1..1 | SHALL |  | [22557](#C_22557) |  |
| low | 1..1 | SHALL |  | [22558](#C_22558) |  |
| @nullFlavor | 1..1 | SHALL | CS | [22559](#C_22559) | 2.16.840.1.113883.5.1008 (HL7NullFlavor) = NI |
| location | 1..1 | SHALL |  | [22560](#C_22560) |  |
| healthCareFacility | 1..1 | SHALL |  | [22561](#C_22561) |  |
| id | 1..1 | SHALL |  | [22562](#C_22562) |  |
| @root | 1..1 | SHALL |  | [22563](#C_22563) |  |
| @extension | 1..1 | SHALL |  | [22564](#C_22564) |  |
| code | 1..1 | SHALL |  | [22565](#C_22565) | 2.16.840.1.113883.13.19 (NHSNHealthcareServiceLocationCode) |
| component | 1..1 | SHALL |  | [22567](#C_22567) |  |
| structuredBody | 1..1 | SHALL |  | [22568](#C_22568) |  |
| component | 1..1 | SHALL |  | [22569](#C_22569) |  |
| section | 1..1 | SHALL |  | [22570](#C_22570) | [Infection Risk Factors Section in a CLIP Report (identifier: oid:2.16.840.1.113883.10.20.5.5.34](#S_Infection_Risk_Factors_Section_in_a_C) |
| component | 1..1 | SHALL |  | [22571](#C_22571) |  |
| section | 1..1 | SHALL |  | [22572](#C_22572) | [Procedure Details Section in a CLIP Report (identifier: oid:2.16.840.1.113883.10.20.5.5.42](#S_Procedure_Details_Section_in_a_CLIP_R) |

1. Conforms to [HAI Single-Person Report Generic Constraints](#D_HAI_SinglePerson_Report_Generic_Const) template (identifier: oid:2.16.840.1.113883.10.20.5.4.27).

This template id represents the IG in which this template is published.

1. SHALL contain exactly one [1..1] templateId (CONF:28309) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.7.1" (CONF:28310).
2. SHALL contain exactly one [1..1] templateId (CONF:22553) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.36" (CONF:22554).
3. SHALL contain exactly one [1..1] componentOf (CONF:22555).
   1. This componentOf SHALL contain exactly one [1..1] encompassingEncounter (CONF:22556).
      1. This encompassingEncounter SHALL contain exactly one [1..1] effectiveTime (CONF:22557).
         1. This effectiveTime SHALL contain exactly one [1..1] low (CONF:22558).
            1. This low SHALL contain exactly one [1..1] @nullFlavor="NI" No information (CodeSystem: HL7NullFlavor 2.16.840.1.113883.5.1008 STATIC) (CONF:22559).
      2. This encompassingEncounter SHALL contain exactly one [1..1] location (CONF:22560).
         1. This location SHALL contain exactly one [1..1] healthCareFacility (CONF:22561).
            1. This healthCareFacility SHALL contain exactly one [1..1] id (CONF:22562).

This id SHALL contain exactly one [1..1] @root (CONF:22563).

The value of healthCareFacility/id/@extension must be a value previously registered with NHSN.

This id SHALL contain exactly one [1..1] @extension (CONF:22564).

* + - * 1. This healthCareFacility SHALL contain exactly one [1..1] code, which SHALL be selected from ValueSet [NHSNHealthcareServiceLocationCode](#NHSNHealthcareServiceLocationCode) 2.16.840.1.113883.13.19 DYNAMIC (CONF:22565).

1. SHALL contain exactly one [1..1] component (CONF:22567).
   1. This component SHALL contain exactly one [1..1] structuredBody (CONF:22568).
      1. This structuredBody SHALL contain exactly one [1..1] component (CONF:22569) such that it
         1. SHALL contain exactly one [1..1] [Infection Risk Factors Section in a CLIP Report](#S_Infection_Risk_Factors_Section_in_a_C) (identifier: oid:2.16.840.1.113883.10.20.5.5.34) (CONF:22570).
      2. This structuredBody SHALL contain exactly one [1..1] component (CONF:22571) such that it
         1. SHALL contain exactly one [1..1] [Procedure Details Section in a CLIP Report](#S_Procedure_Details_Section_in_a_CLIP_R) (identifier: oid:2.16.840.1.113883.10.20.5.5.42) (CONF:22572).

HAI Evidence of Infection (Dialysis) Report (V2)

[ClinicalDocument: identifier oid:2.16.840.1.113883.10.20.5.37.2 (closed)]

Table 30: HAI Evidence of Infection (Dialysis) Report (V2) Contexts

| Contained By: | Contains: |
| --- | --- |
|  | [Details Section in an Evidence of Infection (Dialysis) Report (V2)](#S_Details_Section_in_an_Evidence_of_V2)  [Findings Section in an Infection-Type Report](#S_Findings_Section_in_an_InfectionType_)  [Risk Factors Section in an Evidence of Infection (Dialysis) Report](#S_Risk_Factors_Section_in_an_Evidence_o) |

Note: The section on “Template Ids in this Guide” includes a containment table showing all the entries within each report type.

The report records evidence of infection in a chronic hemodialysis patient.

Preferred document title:  “Evidence of Infection, Dialysis Report (EOID)”

Key encounter data:

   •  Encounter type is recorded as outpatient (AMB).

   •  Admission date is recorded as nullFlavor NA (Not applicable).

   •  Facility id, unit identifier, and unit type are required.

Other dates and locations: None

Table 31: HAI Evidence of Infection (Dialysis) Report (V2) Constraints Overview

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| XPath | Card. | Verb | Data Type | CONF# | Value |
| ClinicalDocument (identifier: oid:2.16.840.1.113883.10.20.5.37.2) | | | | | |
| templateId | 1..1 | SHALL |  | [30307](#C_30307) |  |
| @root | 1..1 | SHALL |  | [30308](#C_30308) | 2.16.840.1.113883.10.20.5.7.2.1.1 |
| templateId | 1..1 | SHALL |  | [22573](#C_22573) |  |
| @root | 1..1 | SHALL |  | [30252](#C_30252) | 2.16.840.1.113883.10.20.5.37.2 |
| componentOf | 1..1 | SHALL |  | [22575](#C_22575) |  |
| encompassingEncounter | 1..1 | SHALL |  | [22576](#C_22576) |  |
| code | 1..1 | SHALL |  | [22577](#C_22577) |  |
| @code | 1..1 | SHALL |  | [22578](#C_22578) | 2.16.840.1.113883.5.4 (ActCode) = AMB |
| effectiveTime | 1..1 | SHALL |  | [22579](#C_22579) |  |
| low | 1..1 | SHALL |  | [22580](#C_22580) |  |
| @nullFlavor | 1..1 | SHALL |  | [22581](#C_22581) | 2.16.840.1.113883.5.1008 (HL7NullFlavor) = NA |
| location | 1..1 | SHALL |  | [22582](#C_22582) |  |
| healthCareFacility | 1..1 | SHALL |  | [22583](#C_22583) |  |
| id | 1..1 | SHALL |  | [22584](#C_22584) |  |
| @root | 1..1 | SHALL |  | [22585](#C_22585) |  |
| @extension | 1..1 | SHALL |  | [22586](#C_22586) |  |
| code | 1..1 | SHALL |  | [22587](#C_22587) | 2.16.840.1.113883.13.19 (NHSNHealthcareServiceLocationCode) |
| component | 1..1 | SHALL |  | [22589](#C_22589) |  |
| structuredBody | 1..1 | SHALL |  | [22590](#C_22590) |  |
| component | 1..1 | SHALL |  | [22591](#C_22591) |  |
| section | 1..1 | SHALL |  | [22592](#C_22592) | [Risk Factors Section in an Evidence of Infection (Dialysis) Report (identifier: oid:2.16.840.1.113883.10.20.5.5.37](#S_Risk_Factors_Section_in_an_Evidence_o) |
| component | 1..1 | SHALL |  | [22593](#C_22593) |  |
| section | 1..1 | SHALL |  | [30253](#C_30253) | [Details Section in an Evidence of Infection (Dialysis) Report (V2) (identifier: oid:2.16.840.1.113883.10.20.5.5.41.2](#S_Details_Section_in_an_Evidence_of_V2) |
| component | 0..1 | MAY |  | [23302](#C_23302) |  |
| section | 1..1 | SHALL |  | [23303](#C_23303) | [Findings Section in an Infection-Type Report (identifier: oid:2.16.840.1.113883.10.20.5.5.45](#S_Findings_Section_in_an_InfectionType_) |

1. Conforms to [HAI Single-Person Report Generic Constraints](#D_HAI_SinglePerson_Report_Generic_Const) template (identifier: oid:2.16.840.1.113883.10.20.5.4.27).

This template id represents the IG in which this template is published.

1. SHALL contain exactly one [1..1] templateId (CONF:30307) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.7.2.1.1" (CONF:30308).
2. SHALL contain exactly one [1..1] templateId (CONF:22573) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.37.2" (CONF:30252).
3. SHALL contain exactly one [1..1] componentOf (CONF:22575).
   1. This componentOf SHALL contain exactly one [1..1] encompassingEncounter (CONF:22576).
      1. This encompassingEncounter SHALL contain exactly one [1..1] code (CONF:22577).
         1. This code SHALL contain exactly one [1..1] @code="AMB" Ambulatory (CodeSystem: ActCode 2.16.840.1.113883.5.4 STATIC) (CONF:22578).
      2. This encompassingEncounter SHALL contain exactly one [1..1] effectiveTime (CONF:22579).
         1. This effectiveTime SHALL contain exactly one [1..1] low (CONF:22580).
            1. This low SHALL contain exactly one [1..1] @nullFlavor="NA" (CodeSystem: HL7NullFlavor 2.16.840.1.113883.5.1008 STATIC) (CONF:22581).
      3. This encompassingEncounter SHALL contain exactly one [1..1] location (CONF:22582).
         1. This location SHALL contain exactly one [1..1] healthCareFacility (CONF:22583).
            1. This healthCareFacility SHALL contain exactly one [1..1] id (CONF:22584).

This id SHALL contain exactly one [1..1] @root (CONF:22585).

The value of healthCareFacility/id/@extension must be a value previously registered with NHSN.

This id SHALL contain exactly one [1..1] @extension (CONF:22586).

* + - * 1. This healthCareFacility SHALL contain exactly one [1..1] code (ValueSet: [NHSNHealthcareServiceLocationCode](#NHSNHealthcareServiceLocationCode) 2.16.840.1.113883.13.19 DYNAMIC) (CONF:22587).

1. SHALL contain exactly one [1..1] component (CONF:22589).
   1. This component SHALL contain exactly one [1..1] structuredBody (CONF:22590).
      1. This structuredBody SHALL contain exactly one [1..1] component (CONF:22591) such that it
         1. SHALL contain exactly one [1..1] [Risk Factors Section in an Evidence of Infection (Dialysis) Report](#S_Risk_Factors_Section_in_an_Evidence_o) (identifier: oid:2.16.840.1.113883.10.20.5.5.37) (CONF:22592).
      2. This structuredBody SHALL contain exactly one [1..1] component (CONF:22593) such that it
         1. SHALL contain exactly one [1..1] [Details Section in an Evidence of Infection (Dialysis) Report (V2)](#S_Details_Section_in_an_Evidence_of_V2) (identifier: oid:2.16.840.1.113883.10.20.5.5.41.2) (CONF:30253).
      3. This structuredBody MAY contain zero or one [0..1] component (CONF:23302) such that it
         1. SHALL contain exactly one [1..1] [Findings Section in an Infection-Type Report](#S_Findings_Section_in_an_InfectionType_) (identifier: oid:2.16.840.1.113883.10.20.5.5.45) (CONF:23303).
         2. If a positive blood culture was obtained SHALL contain a component containing a Findings Section in an Infection-type Report (CONF:23304).

HAI Laboratory-Identified Organism (LIO) Report

[ClinicalDocument: identifier oid:2.16.840.1.113883.10.20.5.38 (closed)]

Table 32: HAI Laboratory-Identified Organism (LIO) Report Contexts

| Contained By: | Contains: |
| --- | --- |
|  | [Encounters Section in a LIO Report](#S_Encounters_Section_in_a_LIO_Report)  [Findings Section in a LIO Report](#S_Findings_Section_in_a_LIO_Report) |

Note: The section on “Template Ids in this Guide” includes a containment table showing all the entries within each report type.

This report records the laboratory identification of a microorganism in a specimen. This is not an infection-type report: the presence of the organism is not equivalent to the presence of an infection. These reports are submitted if the facility is monitoring the organism identified. Each report records a single organism.

Preferred document title:  “Laboratory-identified Organism Report (LIO)”

Key encounter data:

   •  The encounter type (inpatient/outpatient) is required.

   •  An admission date or encounter date is required. (If the patient is an outpatient, the date of specimen collection is also used in the header as the date of admission.)

   •  The facility identifier is required. Unit identifier and unit type are not recorded in the header.

Other dates and locations:

   •  Date of admission to the in-facility location where the specimen was collected

   •  Date of specimen collection (also recorded as admission date if the patient was an outpatient).

Table 33: HAI Laboratory-Identified Organism (LIO) Report Constraints Overview

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| XPath | Card. | Verb | Data Type | CONF# | Value |
| ClinicalDocument (identifier: oid:2.16.840.1.113883.10.20.5.38) | | | | | |
| templateId | 1..1 | SHALL |  | [28313](#C_28313) |  |
| @root | 1..1 | SHALL |  | [28314](#C_28314) | 2.16.840.1.113883.10.20.5.7.1 |
| templateId | 1..1 | SHALL |  | [22597](#C_22597) |  |
| @root | 1..1 | SHALL |  | [22598](#C_22598) | 2.16.840.1.113883.10.20.5.38 |
| componentOf | 1..1 | SHALL |  | [22599](#C_22599) |  |
| encompassingEncounter | 1..1 | SHALL |  | [22600](#C_22600) |  |
| code | 1..1 | SHALL |  | [22601](#C_22601) | 2.16.840.1.113883.13.1 (NHSNEncounterTypeCode) |
| effectiveTime | 1..1 | SHALL |  | [22603](#C_22603) |  |
| low | 1..1 | SHALL |  | [22604](#C_22604) |  |
| @nullFlavor | 0..1 | MAY |  | [23305](#C_23305) |  |
| @value | 0..1 | MAY |  | [22605](#C_22605) |  |
| location | 1..1 | SHALL |  | [22606](#C_22606) |  |
| healthCareFacility | 1..1 | SHALL |  | [22607](#C_22607) |  |
| id | 1..1 | SHALL |  | [22608](#C_22608) |  |
| @root | 1..1 | SHALL |  | [22609](#C_22609) |  |
| component | 1..1 | SHALL |  | [22610](#C_22610) |  |
| structuredBody | 1..1 | SHALL |  | [22611](#C_22611) |  |
| component | 1..1 | SHALL |  | [22612](#C_22612) |  |
| section | 1..1 | SHALL |  | [22613](#C_22613) | [Findings Section in a LIO Report (identifier: oid:2.16.840.1.113883.10.20.5.5.46](#S_Findings_Section_in_a_LIO_Report) |
| component | 1..1 | MAY |  | [22614](#C_22614) |  |
| section | 1..1 | SHALL |  | [23307](#C_23307) | [Encounters Section in a LIO Report (identifier: oid:2.16.840.1.113883.10.20.5.5.44](#S_Encounters_Section_in_a_LIO_Report) |

1. Conforms to [HAI Single-Person Report Generic Constraints](#D_HAI_SinglePerson_Report_Generic_Const) template (identifier: oid:2.16.840.1.113883.10.20.5.4.27).

This template id represents the IG in which this template is published.

1. SHALL contain exactly one [1..1] templateId (CONF:28313) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.7.1" (CONF:28314).
2. SHALL contain exactly one [1..1] templateId (CONF:22597) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.38" (CONF:22598).
3. SHALL contain exactly one [1..1] componentOf (CONF:22599).
   1. This componentOf SHALL contain exactly one [1..1] encompassingEncounter (CONF:22600).
      1. This encompassingEncounter SHALL contain exactly one [1..1] code, which SHALL be selected from ValueSet [NHSNEncounterTypeCode](#NHSNEncounterTypeCode) 2.16.840.1.113883.13.1 STATIC (CONF:22601).
      2. This encompassingEncounter SHALL contain exactly one [1..1] effectiveTime (CONF:22603).
         1. This effectiveTime SHALL contain exactly one [1..1] low (CONF:22604).
            1. This low MAY contain zero or one [0..1] @nullFlavor (CONF:23305).
            2. This low MAY contain zero or one [0..1] @value (CONF:22605).  
               Note: Admission Date
            3. If encounter type is IMP, effectiveTime/low/@value is required; if encounter type is AMB, effectiveTime/low/@nullFlavor="NA" (CONF:23306).
         2. The value of the admission date SHALL NOT be earlier than January 1, 1986; SHALL NOT be earlier than the date of birth; and SHALL NOT be later than the event date (CONF:23360).
      3. This encompassingEncounter SHALL contain exactly one [1..1] location (CONF:22606).
         1. This location SHALL contain exactly one [1..1] healthCareFacility (CONF:22607).
            1. This healthCareFacility SHALL contain exactly one [1..1] id (CONF:22608).

This id SHALL contain exactly one [1..1] @root (CONF:22609).

1. SHALL contain exactly one [1..1] component (CONF:22610).
   1. This component SHALL contain exactly one [1..1] structuredBody (CONF:22611).
      1. This structuredBody SHALL contain exactly one [1..1] component (CONF:22612) such that it
         1. SHALL contain exactly one [1..1] [Findings Section in a LIO Report](#S_Findings_Section_in_a_LIO_Report) (identifier: oid:2.16.840.1.113883.10.20.5.5.46) (CONF:22613).
      2. This structuredBody MAY contain exactly one [1..1] component (CONF:22614) such that it
         1. SHALL contain exactly one [1..1] [Encounters Section in a LIO Report](#S_Encounters_Section_in_a_LIO_Report) (identifier: oid:2.16.840.1.113883.10.20.5.5.44) (CONF:23307).
         2. When the patient was discharged from this facility within the prior three months, a component element containing an Encounters Section in a LIO Report SHALL be present (CONF:22615).

HAI Procedure Denominator Report (V2)

[ClinicalDocument: identifier oid:2.16.840.1.113883.10.20.5.35.2 (closed)]

Table 34: HAI Procedure Denominator Report (V2) Contexts

| Contained By: | Contains: |
| --- | --- |
|  | [Infection Risk Factors Section in a Procedure Report](#S_Infection_Risk_Factors_Section_in_a_P)  [Procedure Details Section in a Procedure Report (V2)](#Procedure_Details_Section_in_a_Procedur) |

Note: The section on “Template Ids in this Guide” includes a containment table showing all the entries within each report type.

This report records a procedure performed.

Preferred document title:  “Denominator for Procedure Report”

Key encounter data:

   •  The encounter type (inpatient or outpatient) is required.

   •  If the patient was an inpatient, a value for admission date is required.

   •  The facility id is required. Unit identifier and unit type are not reported.

Other dates and locations:

   •  The date of the procedure is recorded as effectiveTime in the Procedure Details Clinical Statement in a Procedure Report  (V2).

Other notes: The procedure id is recorded in the Procedure Details Clinical Statement in a Procedure Report (V2). NHSN uses this to establish a link between Procedure and SSI Reports.

Table 35: HAI Procedure Denominator Report (V2) Constraints Overview

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| XPath | Card. | Verb | Data Type | CONF# | Value |
| ClinicalDocument (identifier: oid:2.16.840.1.113883.10.20.5.35.2) | | | | | |
| templateId | 1..1 | SHALL |  | [30309](#C_30309) |  |
| @root | 1..1 | SHALL |  | [30310](#C_30310) | 2.16.840.1.113883.10.20.5.7.2.1.1 |
| templateId | 1..1 | SHALL |  | [22531](#C_22531) |  |
| @root | 1..1 | SHALL |  | [30255](#C_30255) | 2.16.840.1.113883.10.20.5.35.2 |
| componentOf | 1..1 | SHALL |  | [22533](#C_22533) |  |
| encompassingEncounter | 1..1 | SHALL |  | [22534](#C_22534) |  |
| code | 1..1 | SHALL |  | [22535](#C_22535) | 2.16.840.1.113883.13.1 (NHSNEncounterTypeCode) |
| location | 1..1 | SHALL |  | [22537](#C_22537) |  |
| healthCareFacility | 1..1 | SHALL |  | [22538](#C_22538) |  |
| id | 1..1 | SHALL |  | [22539](#C_22539) |  |
| @root | 1..1 | SHALL |  | [22540](#C_22540) |  |
| @extension | 0..1 | MAY |  | [22541](#C_22541) |  |
| code | 0..1 | MAY |  | [22542](#C_22542) | 2.16.840.1.113883.13.19 (NHSNHealthcareServiceLocationCode) |
| component | 1..1 | SHALL |  | [22545](#C_22545) |  |
| structuredBody | 1..1 | SHALL |  | [22546](#C_22546) |  |
| component | 1..1 | SHALL |  | [22547](#C_22547) |  |
| section | 1..1 | SHALL |  | [30256](#C_30256) | [Procedure Details Section in a Procedure Report (V2) (identifier: oid:2.16.840.1.113883.10.20.5.5.43.2](#Procedure_Details_Section_in_a_Procedur) |
| component | 1..1 | SHALL |  | [22551](#C_22551) |  |
| section | 1..1 | SHALL |  | [22552](#C_22552) | [Infection Risk Factors Section in a Procedure Report (identifier: oid:2.16.840.1.113883.10.20.5.5.35](#S_Infection_Risk_Factors_Section_in_a_P) |

1. Conforms to [HAI Single-Person Report Generic Constraints](#D_HAI_SinglePerson_Report_Generic_Const) template (identifier: oid:2.16.840.1.113883.10.20.5.4.27).

This template id represents the IG in which this template is published.

1. SHALL contain exactly one [1..1] templateId (CONF:30309) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.7.2.1.1" (CONF:30310).
2. SHALL contain exactly one [1..1] templateId (CONF:22531) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.35.2" (CONF:30255).
3. SHALL contain exactly one [1..1] componentOf (CONF:22533).
   1. This componentOf SHALL contain exactly one [1..1] encompassingEncounter (CONF:22534).
      1. This encompassingEncounter SHALL contain exactly one [1..1] code (ValueSet: [NHSNEncounterTypeCode](#NHSNEncounterTypeCode) 2.16.840.1.113883.13.1 STATIC 2009-01-30) (CONF:22535).
      2. This encompassingEncounter SHALL contain exactly one [1..1] location (CONF:22537).
         1. This location SHALL contain exactly one [1..1] healthCareFacility (CONF:22538).
            1. This healthCareFacility SHALL contain exactly one [1..1] id (CONF:22539).

This id SHALL contain exactly one [1..1] @root (CONF:22540).

The value of at least one healthCareFacility/id/@extension, if supplied, must be a value previously registered with NHSN.

This id MAY contain zero or one [0..1] @extension (CONF:22541).

* + - * 1. This healthCareFacility MAY contain zero or one [0..1] code, which SHALL be selected from ValueSet [NHSNHealthcareServiceLocationCode](#NHSNHealthcareServiceLocationCode) 2.16.840.1.113883.13.19 DYNAMIC (CONF:22542).
    1. If the patient is an inpatient (code/@code='IMP'), admission date is recorded: An effectiveTime element SHALL be present. This effectiveTime SHALL 1..1] contain a low element. This low element SHALL 1..1] contain @value (CONF:22544).

1. SHALL contain exactly one [1..1] component (CONF:22545).
   1. This component SHALL contain exactly one [1..1] structuredBody (CONF:22546).
      1. This structuredBody SHALL contain exactly one [1..1] component (CONF:22547) such that it
         1. SHALL contain exactly one [1..1] [Procedure Details Section in a Procedure Report (V2)](#Procedure_Details_Section_in_a_Procedur) (identifier: oid:2.16.840.1.113883.10.20.5.5.43.2) (CONF:30256).
      2. This structuredBody SHALL contain exactly one [1..1] component (CONF:22551) such that it
         1. SHALL contain exactly one [1..1] [Infection Risk Factors Section in a Procedure Report](#S_Infection_Risk_Factors_Section_in_a_P) (identifier: oid:2.16.840.1.113883.10.20.5.5.35) (CONF:22552).

HAI Surgical Site Infection Report (SSI) (V2)

[ClinicalDocument: identifier oid:2.16.840.1.113883.10.20.5.33.2 (closed)]

Table 36: HAI Surgical Site Infection Report (SSI) (V2) Contexts

| Contained By: | Contains: |
| --- | --- |
|  | [Findings Section in an Infection-Type Report](#S_Findings_Section_in_an_InfectionType_)  [Infection Details Section in an SSI Report (V2)](#S_Infection_Details_Section_in_an_SSI_V2) |

Note: The section on “Template Ids in this Guide” includes a containment table showing all the entries within each report type.

This report type records a surgical site infection event.

Preferred document title:  “Surgical Site Infection Report (SSI)”.

Key encounter data:

   •  The encounter type (inpatient or outpatient) is required.

   •  A value for admission date is required.

   •  A discharge date may be recorded.

   •  The facility id is required.

Other dates and locations:

   •  The date of the infection is recorded as effectiveTime in the Infection-type Observation.

Other notes: The procedure id is recorded in the Procedure Details Clinical Statement in an Infection-Type Report. NHSN uses this to establish a link between Procedure and SSI Reports.

Table 37: HAI Surgical Site Infection Report (SSI) (V2) Constraints Overview

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| XPath | Card. | Verb | Data Type | CONF# | Value |
| ClinicalDocument (identifier: oid:2.16.840.1.113883.10.20.5.33.2) | | | | | |
| templateId | 1..1 | SHALL |  | [30311](#C_30311) |  |
| @root | 1..1 | SHALL |  | [30312](#C_30312) | 2.16.840.1.113883.10.20.5.7.2.1.1 |
| templateId | 1..1 | SHALL |  | [22484](#C_22484) |  |
| @root | 1..1 | SHALL |  | [30276](#C_30276) | 2.16.840.1.113883.10.20.5.33.2 |
| componentOf | 1..1 | SHALL |  | [22486](#C_22486) |  |
| encompassingEncounter | 1..1 | SHALL |  | [22487](#C_22487) |  |
| code | 1..1 | SHALL |  | [22488](#C_22488) | 2.16.840.1.113883.13.1 (NHSNEncounterTypeCode) |
| effectiveTime | 1..1 | SHALL |  | [22490](#C_22490) |  |
| low | 1..1 | SHALL |  | [27762](#C_27762) |  |
| @value | 1..1 | SHALL |  | [27763](#C_27763) |  |
| high | 0..1 | MAY |  | [22491](#C_22491) |  |
| @value | 1..1 | SHALL |  | [22492](#C_22492) |  |
| location | 1..1 | SHALL |  | [22493](#C_22493) |  |
| healthCareFacility | 1..1 | SHALL |  | [22494](#C_22494) |  |
| id | 1..1 | SHALL |  | [22495](#C_22495) |  |
| @root | 1..1 | SHALL |  | [22496](#C_22496) |  |
| @extension | 0..1 | MAY |  | [22497](#C_22497) |  |
| code | 0..1 | MAY |  | [22498](#C_22498) | 2.16.840.1.113883.13.19 (NHSNHealthcareServiceLocationCode) |
| component | 1..1 | SHALL |  | [22501](#C_22501) |  |
| structuredBody | 1..1 | SHALL |  | [22502](#C_22502) |  |
| component | 1..1 | SHALL |  | [22503](#C_22503) |  |
| section | 1..1 | SHALL |  | [22504](#C_22504) | [Infection Details Section in an SSI Report (V2) (identifier: oid:2.16.840.1.113883.10.20.5.5.39.2](#S_Infection_Details_Section_in_an_SSI_V2) |
| component | 1..1 | SHALL |  | [22505](#C_22505) |  |
| section | 1..1 | SHALL |  | [22506](#C_22506) | [Findings Section in an Infection-Type Report (identifier: oid:2.16.840.1.113883.10.20.5.5.45](#S_Findings_Section_in_an_InfectionType_) |

1. Conforms to [HAI Single-Person Report Generic Constraints](#D_HAI_SinglePerson_Report_Generic_Const) template (identifier: oid:2.16.840.1.113883.10.20.5.4.27).

This template id represents the IG in which this template is published.

1. SHALL contain exactly one [1..1] templateId (CONF:30311) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.7.2.1.1" (CONF:30312).
2. SHALL contain exactly one [1..1] templateId (CONF:22484) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.33.2" (CONF:30276).
3. SHALL contain exactly one [1..1] componentOf (CONF:22486).
   1. This componentOf SHALL contain exactly one [1..1] encompassingEncounter (CONF:22487).
      1. This encompassingEncounter SHALL contain exactly one [1..1] code (ValueSet: [NHSNEncounterTypeCode](#NHSNEncounterTypeCode) 2.16.840.1.113883.13.1 STATIC 2009-01-30) (CONF:22488).
      2. This encompassingEncounter SHALL contain exactly one [1..1] effectiveTime (CONF:22490).
         1. This effectiveTime SHALL contain exactly one [1..1] low (CONF:27762).
            1. This low SHALL contain exactly one [1..1] @value (CONF:27763).  
               Note: Admission Date
         2. This effectiveTime MAY contain zero or one [0..1] high (CONF:22491).
            1. The high, if present, SHALL contain exactly one [1..1] @value (CONF:22492).  
               Note: Discharge Date
      3. This encompassingEncounter SHALL contain exactly one [1..1] location (CONF:22493).
         1. This location SHALL contain exactly one [1..1] healthCareFacility (CONF:22494).
            1. This healthCareFacility SHALL contain exactly one [1..1] id (CONF:22495).

This id SHALL contain exactly one [1..1] @root (CONF:22496).

The value of at least one healthCareFacility/id/@extension, if supplied, must be a value previously registered with NHSN.

This id MAY contain zero or one [0..1] @extension (CONF:22497).

* + - * 1. This healthCareFacility MAY contain zero or one [0..1] code (ValueSet: [NHSNHealthcareServiceLocationCode](#NHSNHealthcareServiceLocationCode) 2.16.840.1.113883.13.19 DYNAMIC) (CONF:22498).

1. SHALL contain exactly one [1..1] component (CONF:22501).
   1. This component SHALL contain exactly one [1..1] structuredBody (CONF:22502).
      1. This structuredBody SHALL contain exactly one [1..1] component (CONF:22503) such that it
         1. SHALL contain exactly one [1..1] [Infection Details Section in an SSI Report (V2)](#S_Infection_Details_Section_in_an_SSI_V2) (identifier: oid:2.16.840.1.113883.10.20.5.5.39.2) (CONF:22504).
      2. This structuredBody SHALL contain exactly one [1..1] component (CONF:22505) such that it
         1. SHALL contain exactly one [1..1] [Findings Section in an Infection-Type Report](#S_Findings_Section_in_an_InfectionType_) (identifier: oid:2.16.840.1.113883.10.20.5.5.45) (CONF:22506).

HAI Urinary Tract Infection Numerator Report (UTI)

[ClinicalDocument: identifier oid:2.16.840.1.113883.10.20.5.34 (closed)]

Table 38: HAI Urinary Tract Infection Numerator Report (UTI) Contexts

| Contained By: | Contains: |
| --- | --- |
|  | [Findings Section in an Infection-Type Report](#S_Findings_Section_in_an_InfectionType_)  [Infection Details Section in a UTI Report](#S_Infection_Details_Section_in_a_UTI_Re)  [Infection Risk Factors Section in a UTI Report](#S_Infection_Risk_Factors_Section_in_a_U) |

Note: The section on “Template Ids in this Guide” includes a containment table showing all the entries within each report type.

This report records a urinary tract infection event.

Preferred document title:  “Urinary Infection Report (UTI)”

Key encounter data:

   •  A value for admission date is required.

   •  A discharge date may be recorded.

   •  The facility id, unit identifier, and unit type are required.

Other dates and locations:

   •  The date of the infection is recorded as effectiveTime in the Infection-type Observation.

Table 39: HAI Urinary Tract Infection Numerator Report (UTI) Constraints Overview

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| XPath | Card. | Verb | Data Type | CONF# | Value |
| ClinicalDocument (identifier: oid:2.16.840.1.113883.10.20.5.34) | | | | | |
| templateId | 1..1 | SHALL |  | [28319](#C_28319) |  |
| @root | 1..1 | SHALL |  | [28320](#C_28320) | 2.16.840.1.113883.10.20.5.7.2.1.1 |
| templateId | 1..1 | SHALL |  | [22507](#C_22507) |  |
| @root | 1..1 | SHALL |  | [27433](#C_27433) | 2.16.840.1.113883.10.20.5.34 |
| componentOf | 1..1 | SHALL |  | [22509](#C_22509) |  |
| encompassingEncounter | 1..1 | SHALL |  | [22510](#C_22510) |  |
| effectiveTime | 1..1 | SHALL |  | [22511](#C_22511) |  |
| low | 1..1 | SHALL |  | [22512](#C_22512) |  |
| @value | 1..1 | SHALL |  | [22513](#C_22513) |  |
| high | 0..1 | MAY |  | [22514](#C_22514) |  |
| @value | 1..1 | SHALL |  | [22515](#C_22515) |  |
| location | 1..1 | SHALL |  | [22516](#C_22516) |  |
| healthCareFacility | 1..1 | SHALL |  | [22517](#C_22517) |  |
| id | 1..1 | SHALL |  | [22518](#C_22518) |  |
| @root | 1..1 | SHALL |  | [22519](#C_22519) |  |
| @extension | 1..1 | SHALL |  | [22520](#C_22520) |  |
| code | 1..1 | SHALL |  | [22521](#C_22521) | 2.16.840.1.113883.13.19 (NHSNHealthcareServiceLocationCode) |
| component | 1..1 | SHALL |  | [22523](#C_22523) |  |
| structuredBody | 1..1 | SHALL |  | [22524](#C_22524) |  |
| component | 1..1 | SHALL |  | [22525](#C_22525) |  |
| section | 1..1 | SHALL |  | [22526](#C_22526) | [Infection Risk Factors Section in a UTI Report (identifier: oid:2.16.840.1.113883.10.20.5.5.36](#S_Infection_Risk_Factors_Section_in_a_U) |
| component | 1..1 | SHALL |  | [22527](#C_22527) |  |
| section | 1..1 | SHALL |  | [22528](#C_22528) | [Infection Details Section in a UTI Report (identifier: oid:2.16.840.1.113883.10.20.5.5.40](#S_Infection_Details_Section_in_a_UTI_Re) |
| component | 1..1 | SHALL |  | [22529](#C_22529) |  |
| section | 1..1 | SHALL |  | [22530](#C_22530) | [Findings Section in an Infection-Type Report (identifier: oid:2.16.840.1.113883.10.20.5.5.45](#S_Findings_Section_in_an_InfectionType_) |

1. Conforms to [HAI Single-Person Report Generic Constraints](#D_HAI_SinglePerson_Report_Generic_Const) template (identifier: oid:2.16.840.1.113883.10.20.5.4.27).

This template id represents the IG in which this template is published.

1. SHALL contain exactly one [1..1] templateId (CONF:28319) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.7.2.1.1" (CONF:28320).
2. SHALL contain exactly one [1..1] templateId (CONF:22507) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.34" (CONF:27433).
3. SHALL contain exactly one [1..1] componentOf (CONF:22509).
   1. This componentOf SHALL contain exactly one [1..1] encompassingEncounter (CONF:22510).
      1. This encompassingEncounter SHALL contain exactly one [1..1] effectiveTime (CONF:22511).
         1. This effectiveTime SHALL contain exactly one [1..1] low (CONF:22512).
            1. This low SHALL contain exactly one [1..1] @value (CONF:22513).  
               Note: Admission Date
         2. This effectiveTime MAY contain zero or one [0..1] high (CONF:22514).
            1. The high, if present, SHALL contain exactly one [1..1] @value (CONF:22515).  
               Note: Discharge Date
         3. The value of the admission date SHALL NOT be earlier than January 1, 1986; SHALL NOT be earlier than the date of birth; and SHALL NOT be later than the event date (CONF:23362).
      2. This encompassingEncounter SHALL contain exactly one [1..1] location (CONF:22516).
         1. This location SHALL contain exactly one [1..1] healthCareFacility (CONF:22517).
            1. This healthCareFacility SHALL contain exactly one [1..1] id (CONF:22518).

This id SHALL contain exactly one [1..1] @root (CONF:22519).

The value of healthCareFacility/id/@extension must be a value previously registered with NHSN.

This id SHALL contain exactly one [1..1] @extension (CONF:22520).

* + - * 1. This healthCareFacility SHALL contain exactly one [1..1] code (ValueSet: [NHSNHealthcareServiceLocationCode](#NHSNHealthcareServiceLocationCode) 2.16.840.1.113883.13.19 DYNAMIC) (CONF:22521).

1. SHALL contain exactly one [1..1] component (CONF:22523).
   1. This component SHALL contain exactly one [1..1] structuredBody (CONF:22524).
      1. This structuredBody SHALL contain exactly one [1..1] component (CONF:22525) such that it
         1. SHALL contain exactly one [1..1] [Infection Risk Factors Section in a UTI Report](#S_Infection_Risk_Factors_Section_in_a_U) (identifier: oid:2.16.840.1.113883.10.20.5.5.36) (CONF:22526).
      2. This structuredBody SHALL contain exactly one [1..1] component (CONF:22527) such that it
         1. SHALL contain exactly one [1..1] [Infection Details Section in a UTI Report](#S_Infection_Details_Section_in_a_UTI_Re) (identifier: oid:2.16.840.1.113883.10.20.5.5.40) (CONF:22528).
      3. This structuredBody SHALL contain exactly one [1..1] component (CONF:22529) such that it
         1. SHALL contain exactly one [1..1] [Findings Section in an Infection-Type Report](#S_Findings_Section_in_an_InfectionType_) (identifier: oid:2.16.840.1.113883.10.20.5.5.45) (CONF:22530).

# Section-Level Templates

HAI Section Generic Constraints

[section: identifier oid:2.16.840.1.113883.10.20.5.4.26 (closed)]

This template records the constraints that apply to all sections specified in the NHSN HAI Implementation Guide.

Table 40: HAI Section Generic Constraints Constraints Overview

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| XPath | Card. | Verb | Data Type | CONF# | Value |
| section (identifier: oid:2.16.840.1.113883.10.20.5.4.26) | | | | | |
| templateId | 1..1 | SHALL |  | [21958](#C_21958) |  |
| @root | 1..1 | SHALL |  | [21959](#C_21959) | 2.16.840.1.113883.10.20.5.4.26 |
| code | 1..1 | SHALL |  | [21953](#C_21953) |  |
| @code | 1..1 | SHALL |  | [21954](#C_21954) | 2.16.840.1.113883.6.1 (LOINC) |
| title | 1..1 | SHALL |  | [21955](#C_21955) |  |
| text | 1..1 | SHALL |  | [21956](#C_21956) |  |
| entry | 1..\* | SHALL |  | [21957](#C_21957) |  |

1. SHALL contain exactly one [1..1] templateId (CONF:21958) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.4.26" (CONF:21959).
2. SHALL contain exactly one [1..1] code (CONF:21953).
   1. This code SHALL contain exactly one [1..1] @code (CodeSystem: LOINC 2.16.840.1.113883.6.1 STATIC) (CONF:21954).
3. SHALL contain exactly one [1..1] title (CONF:21955).
4. SHALL contain exactly one [1..1] text (CONF:21956).
5. SHALL contain at least one [1..\*] entry (CONF:21957).

Details Section in an Evidence of Infection (Dialysis) Report (V2)

[section: identifier oid:2.16.840.1.113883.10.20.5.5.41.2 (closed)]

Table 41: Details Section in an Evidence of Infection (Dialysis) Report (V2) Contexts

| Contained By: | Contains: |
| --- | --- |
| [HAI Evidence of Infection (Dialysis) Report (V2)](#D_HAI_Evidence_of_Infection_Dialysis_V2) (required) | [Criteria of Diagnosis Organizer](#E_Criteria_of_Diagnosis_Organizer)  [Death Observation in an Evidence of Infection (Dialysis) Report](#E_Death_Observation_in_an_Evidence_of_I)  [Dialysis Clinic Admission Clinical Statement](#E_Dialysis_Clinic_Admission_Clinical_St)  [Hospital Admission Clinical Statement](#E_Hospital_Admission_Clinical_Statement)  [Infection Indicator Organizer](#E_Infection_Indicator_Organizer)  [Loss of Vascular Access Observation](#E_Loss_of_Vascular_Access_Observation) |

The clinical statements in this section record the criteria used in the diagnosis of an infection or the identification of an adverse reaction, any infection indicators, dialysis clinic admission date in comparison to event date, whether the patient was hospitalized, and death observation.

Table 42: Details Section in an Evidence of Infection (Dialysis) Report (V2) Constraints Overview

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| XPath | Card. | Verb | Data Type | CONF# | Value |
| section (identifier: oid:2.16.840.1.113883.10.20.5.5.41.2) | | | | | |
| templateId | 1..1 | SHALL |  | [22338](#C_22338) |  |
| @root | 1..1 | SHALL |  | [30254](#C_30254) | 2.16.840.1.113883.10.20.5.5.41.2 |
| code | 1..1 | SHALL |  | [22340](#C_22340) |  |
| @code | 1..1 | SHALL |  | [22341](#C_22341) | 2.16.840.1.113883.6.1 (LOINC) = 51899-3 |
| entry | 1..1 | SHALL |  | [22342](#C_22342) |  |
| organizer | 1..1 | SHALL |  | [22343](#C_22343) | [Infection Indicator Organizer (identifier: oid:2.16.840.1.113883.10.20.5.6.181](#E_Infection_Indicator_Organizer) |
| entry | 1..1 | SHALL |  | [22344](#C_22344) |  |
| organizer | 1..1 | SHALL |  | [22345](#C_22345) | [Criteria of Diagnosis Organizer (identifier: oid:2.16.840.1.113883.10.20.5.6.180](#E_Criteria_of_Diagnosis_Organizer) |
| entry | 1..1 | SHALL |  | [22346](#C_22346) |  |
| act | 1..1 | SHALL |  | [22347](#C_22347) | [Hospital Admission Clinical Statement (identifier: oid:2.16.840.1.113883.10.20.5.6.133](#E_Hospital_Admission_Clinical_Statement) |
| entry | 1..1 | SHALL |  | [22348](#C_22348) |  |
| observation | 1..1 | SHALL |  | [22349](#C_22349) | [Death Observation in an Evidence of Infection (Dialysis) Report (identifier: oid:2.16.840.1.113883.10.20.5.6.121](#E_Death_Observation_in_an_Evidence_of_I) |
| entry | 1..1 | SHALL |  | [22350](#C_22350) |  |
| encounter | 1..1 | SHALL |  | [22351](#C_22351) | [Dialysis Clinic Admission Clinical Statement (identifier: oid:2.16.840.1.113883.10.20.5.6.124](#E_Dialysis_Clinic_Admission_Clinical_St) |
| entry | 1..1 | SHALL |  | [30222](#C_30222) |  |
| observation | 1..1 | SHALL |  | [30223](#C_30223) | [Loss of Vascular Access Observation (identifier: oid:2.16.840.1.113883.10.20.5.6.203](#E_Loss_of_Vascular_Access_Observation) |

1. Conforms to [HAI Section Generic Constraints](#S_HAI_Section_Generic_Constraints) template (identifier: oid:2.16.840.1.113883.10.20.5.4.26).
2. SHALL contain exactly one [1..1] templateId (CONF:22338) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.5.41.2" (CONF:30254).
3. SHALL contain exactly one [1..1] code (CONF:22340).
   1. This code SHALL contain exactly one [1..1] @code="51899-3" Details Section (CodeSystem: LOINC 2.16.840.1.113883.6.1 STATIC) (CONF:22341).
4. SHALL contain exactly one [1..1] entry (CONF:22342) such that it
   1. SHALL contain exactly one [1..1] [Infection Indicator Organizer](#E_Infection_Indicator_Organizer) (identifier: oid:2.16.840.1.113883.10.20.5.6.181) (CONF:22343).
5. SHALL contain exactly one [1..1] entry (CONF:22344) such that it
   1. SHALL contain exactly one [1..1] [Criteria of Diagnosis Organizer](#E_Criteria_of_Diagnosis_Organizer) (identifier: oid:2.16.840.1.113883.10.20.5.6.180) (CONF:22345).
6. SHALL contain exactly one [1..1] entry (CONF:22346) such that it
   1. SHALL contain exactly one [1..1] [Hospital Admission Clinical Statement](#E_Hospital_Admission_Clinical_Statement) (identifier: oid:2.16.840.1.113883.10.20.5.6.133) (CONF:22347).
7. SHALL contain exactly one [1..1] entry (CONF:22348) such that it
   1. SHALL contain exactly one [1..1] [Death Observation in an Evidence of Infection (Dialysis) Report](#E_Death_Observation_in_an_Evidence_of_I) (identifier: oid:2.16.840.1.113883.10.20.5.6.121) (CONF:22349).
8. SHALL contain exactly one [1..1] entry (CONF:22350) such that it
   1. SHALL contain exactly one [1..1] [Dialysis Clinic Admission Clinical Statement](#E_Dialysis_Clinic_Admission_Clinical_St) (identifier: oid:2.16.840.1.113883.10.20.5.6.124) (CONF:22351).
9. SHALL contain exactly one [1..1] entry (CONF:30222) such that it
   1. SHALL contain exactly one [1..1] [Loss of Vascular Access Observation](#E_Loss_of_Vascular_Access_Observation) (identifier: oid:2.16.840.1.113883.10.20.5.6.203) (CONF:30223).

Figure 1: Details Section in an EOID Report Example

<section>

<!-- HAI Generic section template -->

< templateId root="2.16.840.1.113883.10.20.5.4.26"/>

<!-- HAI Details section in an EOID report template -->

<templateId root="2.16.840.1.113883.10.20.5.5.41.2"/>

<code codeSystem="2.16.840.1.113883.6.1"

codeSystemName="LOINC"

code="51899-3"

displayName="Details Section"/>

<title>Details</title>

...

<entry>

<organizer>

<!-- Infection Indication Organizer -->

<templateId root="2.16.840.1.113883.10.20.5.6.181"/>

...

</organizer >

</entry>

<entry>

< organizer >

<!-- Criteria of Diagnosis Organizer -->

<templateId root="2.16.840.1.113883.10.20.5.6.180"/>

...

</organizer >

</entry>

<entry>

<act>

<!—Hospital Admission Clinical Statement -->

<templateId root="2.16.840.1.113883.10.20.5.6.133"/>

...

</act >

</entry>

<entry>

<observation>

<!-- Death Observation in an Evidence of Infection (Dialysis) Report -->

<templateId root="2.16.840.1.113883.10.20.5.6.121"/>

...

</observation>

</entry>

<entry>

<encounter>

<!-- Dialysis Clinic Admission Clinical Statement -->

<templateId root="2.16.840.1.113883.10.20.5.6.124"/>

...

</encounter >

</entry>

<entry>

<observation>

<!-- Loss of Vascular Access Observation -->

<templateId root="2.16.840.1.113883.10.20.5.6.203"/>

...

</observation>

</entry>

Encounters Section in a LIO Report

[section: identifier oid:2.16.840.1.113883.10.20.5.5.44 (closed)]

Table 43: Encounters Section in a LIO Report Contexts

| Contained By: | Contains: |
| --- | --- |
| [HAI Laboratory-Identified Organism (LIO) Report](#D_HAI_LaboratoryIdentified_Organism_LIO) (optional) | [Prior Discharge Encounter](#E_Prior_Discharge_Encounter) |

In a LIO Report, the Encounters Section is present if the patient was previously discharged from the facility within the past three months; it records the date of that discharge.

Table 44: Encounters Section in a LIO Report Constraints Overview

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| XPath | Card. | Verb | Data Type | CONF# | Value |
| section (identifier: oid:2.16.840.1.113883.10.20.5.5.44) | | | | | |
| templateId | 1..1 | SHALL |  | [22364](#C_22364) |  |
| @root | 1..1 | SHALL |  | [22365](#C_22365) | 2.16.840.1.113883.10.20.5.5.44 |
| code | 1..1 | SHALL |  | [22366](#C_22366) |  |
| @code | 1..1 | SHALL |  | [22367](#C_22367) | 2.16.840.1.113883.6.1 (LOINC) = 46240-8 |
| entry | 1..1 | SHALL |  | [22368](#C_22368) |  |
| encounter | 1..1 | SHALL |  | [22369](#C_22369) | [Prior Discharge Encounter (identifier: oid:2.16.840.1.113883.10.20.5.6.151](#E_Prior_Discharge_Encounter) |

1. Conforms to [HAI Section Generic Constraints](#S_HAI_Section_Generic_Constraints) template (identifier: oid:2.16.840.1.113883.10.20.5.4.26).
2. SHALL contain exactly one [1..1] templateId (CONF:22364) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.5.44" (CONF:22365).
3. SHALL contain exactly one [1..1] code (CONF:22366).
   1. This code SHALL contain exactly one [1..1] @code="46240-8" History of Encounters (CodeSystem: LOINC 2.16.840.1.113883.6.1 STATIC) (CONF:22367).
4. SHALL contain exactly one [1..1] entry (CONF:22368).
   1. This entry SHALL contain exactly one [1..1] [Prior Discharge Encounter](#E_Prior_Discharge_Encounter) (identifier: oid:2.16.840.1.113883.10.20.5.6.151) (CONF:22369).

Figure 2: Encounters Section in a LIO Report Example

<section>

<!-- HAI Generic section template -->

< templateId root="2.16.840.1.113883.10.20.5.4.26"/>

<!-- HAI Encounters section in a LIO report template -->

<templateId root="2.16.840.1.113883.10.20.5.5.44"/>

<code codeSystem="2.16.840.1.113883.6.1"

codeSystemName="LOINC"

code="46240-8"

displayName="History of Encounters"/>

<title>Encounter History</title>

...

<entry>

<encounter>

<!-- Prior Discharge Encounter -->

<templateId root="2.16.840.1.113883.10.20.5.6.151"/>

...

</encounter>

</entry>

</section>

Findings Section in a LIO Report

[section: identifier oid:2.16.840.1.113883.10.20.5.5.46 (closed)]

Table 45: Findings Section in a LIO Report Contexts

| Contained By: | Contains: |
| --- | --- |
| [HAI Laboratory-Identified Organism (LIO) Report](#D_HAI_LaboratoryIdentified_Organism_LIO) (required) | [Pathogen Identified Observation (LIO)](#E_Pathogen_Identified_Observation_LIO)  [Significant Pathogens Observation](#E_Significant_Pathogens_Observation) |

The Findings Section in a LIO Report records a laboratory-identified microorganism. It differs from the Findings Section in Infection Reports in that it records only one microorganism (if more were identified, each is recorded in a separate report), details about the specimen collection are recorded, and no drug-susceptibility test results are recorded. If no organism is found, no report is submitted; thus, the explicit statement "no organism found", which is used in the Findings Section in Infection Reports, is not used here.

Table 46: Findings Section in a LIO Report Constraints Overview

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| XPath | Card. | Verb | Data Type | CONF# | Value |
| section (identifier: oid:2.16.840.1.113883.10.20.5.5.46) | | | | | |
| templateId | 1..1 | SHALL |  | [22378](#C_22378) |  |
| @root | 1..1 | SHALL |  | [22379](#C_22379) | 2.16.840.1.113883.10.20.5.5.46 |
| code | 1..1 | SHALL |  | [22380](#C_22380) |  |
| @code | 1..1 | SHALL |  | [22381](#C_22381) | 2.16.840.1.113883.6.1 (LOINC) = 18769-0 |
| entry | 1..1 | SHALL |  | [22382](#C_22382) |  |
| observation | 1..1 | SHALL |  | [22383](#C_22383) | [Pathogen Identified Observation (LIO) (identifier: oid:2.16.840.1.113883.10.20.5.6.146](#E_Pathogen_Identified_Observation_LIO) |
| entry | 1..1 | SHALL |  | [22384](#C_22384) |  |
| observation | 1..1 | SHALL |  | [22385](#C_22385) | [Significant Pathogens Observation (identifier: oid:2.16.840.1.113883.10.20.5.6.161](#E_Significant_Pathogens_Observation) |

1. Conforms to [HAI Section Generic Constraints](#S_HAI_Section_Generic_Constraints) template (identifier: oid:2.16.840.1.113883.10.20.5.4.26).
2. SHALL contain exactly one [1..1] templateId (CONF:22378) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.5.46" (CONF:22379).
3. SHALL contain exactly one [1..1] code (CONF:22380).
   1. This code SHALL contain exactly one [1..1] @code="18769-0" Findings Section (CodeSystem: LOINC 2.16.840.1.113883.6.1 STATIC) (CONF:22381).
4. SHALL contain exactly one [1..1] entry (CONF:22382) such that it
   1. SHALL contain exactly one [1..1] [Pathogen Identified Observation (LIO)](#E_Pathogen_Identified_Observation_LIO) (identifier: oid:2.16.840.1.113883.10.20.5.6.146) (CONF:22383).
5. SHALL contain exactly one [1..1] entry (CONF:22384) such that it
   1. SHALL contain exactly one [1..1] [Significant Pathogens Observation](#E_Significant_Pathogens_Observation) (identifier: oid:2.16.840.1.113883.10.20.5.6.161) (CONF:22385).

Figure 3: Findings Section in a LIO Report Example

<section>

<!-- HAI Generic section template -->

<templateId root="2.16.840.1.113883.10.20.5.4.26" />

<!-- HAI Findings section in a LIO report template -->

<templateId root="2.16.840.1.113883.10.20.5.5.46" />

<code codeSystem="2.16.840.1.113883.6.1"

codeSystemName="LOINC"

code="18769-0"

displayName="Findings Section" />

<title>Findings</title>

...

<entry>

<observation>

<!-- Pathogen Identified Observation (LIO) -->

<templateId root="2.16.840.1.113883.10.20.5.6.146" />

...

</observation>

</entry>

<entry>

<observation>

<!-- Significant Pathogens Observation -->

<templateId root="2.16.840.1.113883.10.20.5.6.161" />

...

</observation>

</entry>

</section>

Findings Section in an ARO Report

[section: identifier oid:2.16.840.1.113883.10.20.5.5.32 (closed)]

Table 47: Findings Section in an ARO Report Contexts

| Contained By: | Contains: |
| --- | --- |
| [HAI AUR Antimicrobial Resistance Option (ARO) Report](#HAI_AUR_Antimicrobial_Resistance_Option) (required) | [Specimen Collection Procedure (ARO)](#E_Specimen_Collection_Procedure_ARO) |

The Findings Section in an ARO Report records the details concerning one pathogen isolate and its related antimicrobial susceptibility testing results.

Table 48: Findings Section in an ARO Report Constraints Overview

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| XPath | Card. | Verb | Data Type | CONF# | Value |
| section (identifier: oid:2.16.840.1.113883.10.20.5.5.32) | | | | | |
| templateId | 1..1 | SHALL |  | [21128](#C_21128) |  |
| @root | 1..1 | SHALL |  | [21129](#C_21129) | 2.16.840.1.113883.10.20.5.5.32 |
| code | 1..1 | SHALL |  | [21132](#C_21132) |  |
| @code | 1..1 | SHALL |  | [21133](#C_21133) | 2.16.840.1.113883.6.1 (LOINC) = 18769-0 |
| title | 0..1 | MAY |  | [21134](#C_21134) |  |
| text | 0..1 | MAY |  | [21135](#C_21135) |  |
| entry | 1..1 | SHALL |  | [21136](#C_21136) |  |
| @typeCode | 1..1 | SHALL |  | [21137](#C_21137) | 2.16.840.1.113883.5.6 (HL7ActClass) = DRIV |
| procedure | 1..1 | SHALL |  | [27167](#C_27167) | [Specimen Collection Procedure (ARO) (identifier: oid:2.16.840.1.113883.10.20.5.6.188](#E_Specimen_Collection_Procedure_ARO) |

1. Conforms to [HAI Section Generic Constraints](#S_HAI_Section_Generic_Constraints) template (identifier: oid:2.16.840.1.113883.10.20.5.4.26).
2. SHALL contain exactly one [1..1] templateId (CONF:21128) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.5.32" (CONF:21129).
3. SHALL contain exactly one [1..1] code (CONF:21132).
   1. This code SHALL contain exactly one [1..1] @code="18769-0" Findings Section (CodeSystem: LOINC 2.16.840.1.113883.6.1) (CONF:21133).
4. MAY contain zero or one [0..1] title (CONF:21134).
5. MAY contain zero or one [0..1] text (CONF:21135).
6. SHALL contain exactly one [1..1] entry (CONF:21136).
   1. This entry SHALL contain exactly one [1..1] @typeCode="DRIV" (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6) (CONF:21137).
   2. This entry SHALL contain exactly one [1..1] [Specimen Collection Procedure (ARO)](#E_Specimen_Collection_Procedure_ARO) (identifier: oid:2.16.840.1.113883.10.20.5.6.188) (CONF:27167).

Figure 4: Findings Section in an ARO Report Example

<section>

<!-- HAI Generic section template -->

< templateId root="2.16.840.1.113883.10.20.5.4.26"/>

<!-- HAI Findings section in an ARO report template -->

<templateId root="2.16.840.1.113883.10.20.5.5.32"/>

<code codeSystem="2.16.840.1.113883.6.1"

codeSystemName="LOINC"

code="18769-0"

displayName="Findings Section"/>

<title>Findings</title>

...

<entry @typeCode="DRIV">

<procedure classCode="PROC" moodCode="EVN">

<!-- Specimen Collection Procedure (ARO) -->

<templateId root="2.16.840.1.113883.10.20.5.6.188"/>

...

</procedure>

</entry>

</section>

Findings Section in an Infection-Type Report

[section: identifier oid:2.16.840.1.113883.10.20.5.5.45 (closed)]

Table 49: Findings Section in an Infection-Type Report Contexts

| Contained By: | Contains: |
| --- | --- |
| [HAI Bloodstream Infection Report (BSI)](#HAI_Bloodstream_Infection_Report_BSI_R1) (required)  [HAI Urinary Tract Infection Numerator Report (UTI)](#D_HAI_Urinary_Tract_Infection_Numerator) (required)  [HAI Evidence of Infection (Dialysis) Report (V2)](#D_HAI_Evidence_of_Infection_Dialysis_V2) (optional)  [HAI Surgical Site Infection Report (SSI) (V2)](#D_HAI_Surgical_Site_Infection_Report_V2) (required) | [Findings Organizer](#E_Findings_Organizer)  [MDRO/CDI Observation](#E_MDROCDI_Observation)  [Pathogen Identified Observation](#E_Pathogen_Identified_Observation) |

The Findings Section records whether infection organisms were identified and, if so, records details about them.

Table 50: Findings Section in an Infection-Type Report Constraints Overview

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| XPath | Card. | Verb | Data Type | CONF# | Value |
| section (identifier: oid:2.16.840.1.113883.10.20.5.5.45) | | | | | |
| templateId | 1..1 | SHALL |  | [22371](#C_22371) |  |
| @root | 1..1 | SHALL |  | [22372](#C_22372) | 2.16.840.1.113883.10.20.5.5.45 |
| code | 1..1 | SHALL |  | [22373](#C_22373) |  |
| @code | 1..1 | SHALL |  | [22374](#C_22374) | 2.16.840.1.113883.6.1 (LOINC) = 18769-0 |
| entry | 0..3 | MAY |  | [23048](#C_23048) |  |
| organizer | 1..1 | SHALL |  | [23049](#C_23049) | [Findings Organizer (identifier: oid:2.16.840.1.113883.10.20.5.6.182](#E_Findings_Organizer) |
| entry | 0..1 | MAY |  | [23051](#C_23051) |  |
| observation | 1..1 | SHALL |  | [23052](#C_23052) | [Pathogen Identified Observation (identifier: oid:2.16.840.1.113883.10.20.5.6.145](#E_Pathogen_Identified_Observation) |
| entry | 0..1 | MAY |  | [23054](#C_23054) |  |
| observation | 1..1 | SHALL |  | [23055](#C_23055) | [MDRO/CDI Observation (identifier: oid:2.16.840.1.113883.10.20.5.6.142](#E_MDROCDI_Observation) |

1. Conforms to [HAI Section Generic Constraints](#S_HAI_Section_Generic_Constraints) template (identifier: oid:2.16.840.1.113883.10.20.5.4.26).
2. SHALL contain exactly one [1..1] templateId (CONF:22371) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.5.45" (CONF:22372).
3. SHALL contain exactly one [1..1] code (CONF:22373).
   1. This code SHALL contain exactly one [1..1] @code="18769-0" Findings Section (CodeSystem: LOINC 2.16.840.1.113883.6.1 STATIC) (CONF:22374).
4. MAY contain [0..3] entry (CONF:23048) such that it
   1. SHALL contain exactly one [1..1] [Findings Organizer](#E_Findings_Organizer) (identifier: oid:2.16.840.1.113883.10.20.5.6.182) (CONF:23049).
   2. If pathogens were identified, the Findings Section SHALL contain at least one and no more than three entry elements containing a Findings Organizer reporting pathogens identified (CONF:23050).
5. MAY contain zero or one [0..1] entry (CONF:23051) such that it
   1. SHALL contain exactly one [1..1] [Pathogen Identified Observation](#E_Pathogen_Identified_Observation) (identifier: oid:2.16.840.1.113883.10.20.5.6.145) (CONF:23052).
   2. If no pathogens were identified, the Findings Section SHALL contain a single entry element containing a Pathogen Identified Observation reporting that no pathogens were identified (CONF:23053).
6. MAY contain zero or one [0..1] entry (CONF:23054) such that it
   1. SHALL contain exactly one [1..1] [MDRO/CDI Observation](#E_MDROCDI_Observation) (identifier: oid:2.16.840.1.113883.10.20.5.6.142) (CONF:23055).
   2. If pathogens were identified, and the report is not an EOID Report, an entry element SHALL be present, containing an MDRO/CDI Observation (CONF:23056).

Figure 5: Findings Section in an Infection-Type Report Example

<section>

<!-- HAI Generic section template -->

< templateId root="2.16.840.1.113883.10.20.5.4.26"/>

<!-- HAI Findings section in an infection-type report template -->

<templateId root="2.16.840.1.113883.10.20.5.5.45"/>

<code codeSystem="2.16.840.1.113883.6.1"

codeSystemName="LOINC"

code="18769-0"

displayName="Findings Section"/>

<title>Findings</title>

...

<entry>

<organizer>

<!-- Findings Organizer -->

<templateId root="2.16.840.1.113883.10.20.5.6.182"/>

...

</organizer>

</entry>

<entry>

<observation>

<!-- Pathogen Identified Observation -->

<templateId root="2.16.840.1.113883.10.20.5.6.145"/>

...

</observation>

</entry>

<entry>

<observation>

<!-- MDRO/CDI Observation -->

<templateId root="2.16.840.1.113883.10.20.5.6.142"/>

...

</observation>

</entry>

</section>

Infection Details Section in a BSI Report

[section: identifier oid:2.16.840.1.113883.10.20.5.5.38 (closed)]

Table 51: Infection Details Section in a BSI Report Contexts

| Contained By: | Contains: |
| --- | --- |
| [HAI Bloodstream Infection Report (BSI)](#HAI_Bloodstream_Infection_Report_BSI_R1) (required) | [Death Observation](#E_Death_Observation)  [Infection-Type Observation](#E_InfectionType_Observation)  [Post-Procedure Observation](#E_PostProcedure_Observation) |

This section records the infection type, with details. If the patient died, NHSN protocol requires that the death be recorded.

Table 52: Infection Details Section in a BSI Report Constraints Overview

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| XPath | Card. | Verb | Data Type | CONF# | Value |
| section (identifier: oid:2.16.840.1.113883.10.20.5.5.38) | | | | | |
| templateId | 1..1 | SHALL |  | [22310](#C_22310) |  |
| @root | 1..1 | SHALL |  | [22311](#C_22311) | 2.16.840.1.113883.10.20.5.5.38 |
| code | 1..1 | SHALL |  | [22312](#C_22312) |  |
| @code | 1..1 | SHALL |  | [22313](#C_22313) | 2.16.840.1.113883.6.1 (LOINC) = 51899-3 |
| entry | 1..1 | SHALL |  | [22314](#C_22314) |  |
| observation | 1..1 | SHALL |  | [22315](#C_22315) | [Infection-Type Observation (identifier: oid:2.16.840.1.113883.10.20.5.6.139](#E_InfectionType_Observation) |
| entry | 0..1 | MAY |  | [22316](#C_22316) |  |
| observation | 1..1 | SHALL |  | [22317](#C_22317) | [Death Observation (identifier: oid:2.16.840.1.113883.10.20.5.6.120](#E_Death_Observation) |
| entry | 0..1 | MAY |  | [22318](#C_22318) |  |
| observation | 1..1 | SHALL |  | [22319](#C_22319) | [Post-Procedure Observation (identifier: oid:2.16.840.1.113883.10.20.5.6.150](#E_PostProcedure_Observation) |

1. Conforms to [HAI Section Generic Constraints](#S_HAI_Section_Generic_Constraints) template (identifier: oid:2.16.840.1.113883.10.20.5.4.26).
2. SHALL contain exactly one [1..1] templateId (CONF:22310) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.5.38" (CONF:22311).
3. SHALL contain exactly one [1..1] code (CONF:22312).
   1. This code SHALL contain exactly one [1..1] @code="51899-3" Details Section (CodeSystem: LOINC 2.16.840.1.113883.6.1 STATIC) (CONF:22313).
4. SHALL contain exactly one [1..1] entry (CONF:22314) such that it
   1. SHALL contain exactly one [1..1] [Infection-Type Observation](#E_InfectionType_Observation) (identifier: oid:2.16.840.1.113883.10.20.5.6.139) (CONF:22315).
5. MAY contain zero or one [0..1] entry (CONF:22316) such that it
   1. SHALL contain exactly one [1..1] [Death Observation](#E_Death_Observation) (identifier: oid:2.16.840.1.113883.10.20.5.6.120) (CONF:22317).
6. MAY contain zero or one [0..1] entry (CONF:22318) such that it
   1. SHALL contain exactly one [1..1] [Post-Procedure Observation](#E_PostProcedure_Observation) (identifier: oid:2.16.840.1.113883.10.20.5.6.150) (CONF:22319).

Figure 6: Infection Details Section in a BSI Report Example

<section>

<!-- HAI Generic Section template -->

< templateId root="2.16.840.1.113883.10.20.5.4.26"/>

<!-- HAI Infection Details Section in a BSI report template-->

<templateId root="2.16.840.1.113883.10.20.5.5.38"/>

<code codeSystem="2.16.840.1.113883.6.1"

codeSystemName="LOINC"

code="51899-3"

displayName="Details Section"/>

<title> Details </title>

...

<entry>

<observation>

<!-- Infection-Type Observation -->

<templateId root="2.16.840.1.113883.10.20.5.6.139"/>

...

</observation>

</entry>

<entry>

<observation>

<!-- Death Observation -->

<templateId root="2.16.840.1.113883.10.20.5.6.120"/>

...

</observation>

</entry>

<entry>

<observation>

<!-- Post-Procedure Observation -->

<templateId root="2.16.840.1.113883.10.20.5.6.150"/>

...

</observation>

</entry>

</section>

Infection Details Section in a UTI Report

[section: identifier oid:2.16.840.1.113883.10.20.5.5.40 (closed)]

Table 53: Infection Details Section in a UTI Report Contexts

| Contained By: | Contains: |
| --- | --- |
| [HAI Urinary Tract Infection Numerator Report (UTI)](#D_HAI_Urinary_Tract_Infection_Numerator) (required) | [Death Observation](#E_Death_Observation)  [Infection-Type Observation](#E_InfectionType_Observation)  [Post-Procedure Observation](#E_PostProcedure_Observation) |

This section records the infection type, with details. If the patient died, NHSN protocol requires that the death be recorded.

Table 54: Infection Details Section in a UTI Report Constraints Overview

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| XPath | Card. | Verb | Data Type | CONF# | Value |
| section (identifier: oid:2.16.840.1.113883.10.20.5.5.40) | | | | | |
| templateId | 1..1 | SHALL |  | [22328](#C_22328) |  |
| @root | 1..1 | SHALL |  | [22329](#C_22329) | 2.16.840.1.113883.10.20.5.5.40 |
| code | 1..1 | SHALL |  | [22330](#C_22330) |  |
| @code | 1..1 | SHALL |  | [22331](#C_22331) | 2.16.840.1.113883.6.1 (LOINC) = 51899-3 |
| entry | 1..1 | SHALL |  | [22332](#C_22332) |  |
| observation | 1..1 | SHALL |  | [22333](#C_22333) | [Infection-Type Observation (identifier: oid:2.16.840.1.113883.10.20.5.6.139](#E_InfectionType_Observation) |
| entry | 0..1 | MAY |  | [22334](#C_22334) |  |
| observation | 1..1 | SHALL |  | [22335](#C_22335) | [Post-Procedure Observation (identifier: oid:2.16.840.1.113883.10.20.5.6.150](#E_PostProcedure_Observation) |
| entry | 0..1 | MAY |  | [22336](#C_22336) |  |
| observation | 1..1 | SHALL |  | [22337](#C_22337) | [Death Observation (identifier: oid:2.16.840.1.113883.10.20.5.6.120](#E_Death_Observation) |

1. Conforms to [HAI Section Generic Constraints](#S_HAI_Section_Generic_Constraints) template (identifier: oid:2.16.840.1.113883.10.20.5.4.26).
2. SHALL contain exactly one [1..1] templateId (CONF:22328) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.5.40" (CONF:22329).
3. SHALL contain exactly one [1..1] code (CONF:22330).
   1. This code SHALL contain exactly one [1..1] @code="51899-3" Details Section (CodeSystem: LOINC 2.16.840.1.113883.6.1 STATIC) (CONF:22331).
4. SHALL contain exactly one [1..1] entry (CONF:22332) such that it
   1. SHALL contain exactly one [1..1] [Infection-Type Observation](#E_InfectionType_Observation) (identifier: oid:2.16.840.1.113883.10.20.5.6.139) (CONF:22333).
5. MAY contain zero or one [0..1] entry (CONF:22334) such that it
   1. SHALL contain exactly one [1..1] [Post-Procedure Observation](#E_PostProcedure_Observation) (identifier: oid:2.16.840.1.113883.10.20.5.6.150) (CONF:22335).
6. MAY contain zero or one [0..1] entry (CONF:22336) such that it
   1. SHALL contain exactly one [1..1] [Death Observation](#E_Death_Observation) (identifier: oid:2.16.840.1.113883.10.20.5.6.120) (CONF:22337).

Figure 7: Infection Details Section in a UTI Report Example

<section>

<!-- HAI Generic Section template -->

< templateId root="2.16.840.1.113883.10.20.5.4.26"/>

<!-- HAI Infection Details Section in a UTI report template -->

<templateId root="2.16.840.1.113883.10.20.5.5.40"/>

<code codeSystem="2.16.840.1.113883.6.1"

codeSystemName="LOINC"

code="51899-3"

displayName="Details Section"/>

<title>Details</title>

...

<entry>

<observation>

<!-- Infection-Type Observation template -->

<templateId root="2.16.840.1.113883.10.20.5.6.139"/>

...

</observation>

</entry>

<entry>

<observation>

<!-- Post-Procedure Observation template -->

<templateId root="2.16.840.1.113883.10.20.5.6.150"/>

...

</observation>

</entry>

<entry>

<observation>

<!-- Death Observation template -->

<templateId root="2.16.840.1.113883.10.20.5.6.120"/>

...

</observation>

</entry>

</section>

Infection Details Section in an SSI Report (V2)

[section: identifier oid:2.16.840.1.113883.10.20.5.5.39.2 (closed)]

Table 55: Infection Details Section in an SSI Report (V2) Contexts

| Contained By: | Contains: |
| --- | --- |
| [HAI Surgical Site Infection Report (SSI) (V2)](#D_HAI_Surgical_Site_Infection_Report_V2) (required) | [Death Observation](#E_Death_Observation)  [Infection Present at the Time of Surgery Observation](#E_Infection_Present_at_the_Time_of_Surg)  [Infection-Type Observation](#E_InfectionType_Observation)  [Procedure Details Clinical Statement in an Infection-Type Report](#E_Procedure_Details_CS_in_an_InfectionT)  [SSI Detected Using Toolkit Observation](#E_SSI_Detected_Using_Toolkit_Observation) |

This section records the infection type, with details. If the patient died, NHSN protocol requires that the death be recorded.

Table 56: Infection Details Section in an SSI Report (V2) Constraints Overview

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| XPath | Card. | Verb | Data Type | CONF# | Value |
| section (identifier: oid:2.16.840.1.113883.10.20.5.5.39.2) | | | | | |
| templateId | 1..1 | SHALL |  | [22320](#C_22320) |  |
| @root | 1..1 | SHALL |  | [30273](#C_30273) | 2.16.840.1.113883.10.20.5.5.39.2 |
| code | 1..1 | SHALL |  | [22322](#C_22322) |  |
| @code | 1..1 | SHALL |  | [22323](#C_22323) | 2.16.840.1.113883.6.1 (LOINC) = 51899-3 |
| entry | 1..1 | SHALL |  | [22324](#C_22324) |  |
| observation | 1..1 | SHALL |  | [22325](#C_22325) | [Infection-Type Observation (identifier: oid:2.16.840.1.113883.10.20.5.6.139](#E_InfectionType_Observation) |
| entry | 0..1 | MAY |  | [22326](#C_22326) |  |
| observation | 1..1 | SHALL |  | [22327](#C_22327) | [Death Observation (identifier: oid:2.16.840.1.113883.10.20.5.6.120](#E_Death_Observation) |
| entry | 1..1 | SHALL |  | [30274](#C_30274) |  |
| observation | 1..1 | SHALL |  | [30275](#C_30275) | [Infection Present at the Time of Surgery Observation (identifier: oid:2.16.840.1.113883.10.20.5.6.205](#E_Infection_Present_at_the_Time_of_Surg) |
| entry | 1..1 | SHALL |  | [30294](#C_30294) |  |
| observation | 1..1 | SHALL |  | [30295](#C_30295) | [SSI Detected Using Toolkit Observation (identifier: oid:2.16.840.1.113883.10.20.5.6.206](#E_SSI_Detected_Using_Toolkit_Observation) |
| entry | 1..1 | SHALL |  | [30296](#C_30296) |  |
| procedure | 1..1 | SHALL |  | [30297](#C_30297) | [Procedure Details Clinical Statement in an Infection-Type Report (identifier: oid:2.16.840.1.113883.10.20.5.6.154](#E_Procedure_Details_CS_in_an_InfectionT) |

1. Conforms to [HAI Section Generic Constraints](#S_HAI_Section_Generic_Constraints) template (identifier: oid:2.16.840.1.113883.10.20.5.4.26).
2. SHALL contain exactly one [1..1] templateId (CONF:22320) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.5.39.2" (CONF:30273).
3. SHALL contain exactly one [1..1] code (CONF:22322).
   1. This code SHALL contain exactly one [1..1] @code="51899-3" Details Section (CodeSystem: LOINC 2.16.840.1.113883.6.1 STATIC) (CONF:22323).
4. SHALL contain exactly one [1..1] entry (CONF:22324) such that it
   1. SHALL contain exactly one [1..1] [Infection-Type Observation](#E_InfectionType_Observation) (identifier: oid:2.16.840.1.113883.10.20.5.6.139) (CONF:22325).
5. MAY contain zero or one [0..1] entry (CONF:22326) such that it
   1. SHALL contain exactly one [1..1] [Death Observation](#E_Death_Observation) (identifier: oid:2.16.840.1.113883.10.20.5.6.120) (CONF:22327).
6. SHALL contain exactly one [1..1] entry (CONF:30274) such that it
   1. SHALL contain exactly one [1..1] [Infection Present at the Time of Surgery Observation](#E_Infection_Present_at_the_Time_of_Surg) (identifier: oid:2.16.840.1.113883.10.20.5.6.205) (CONF:30275).
7. SHALL contain exactly one [1..1] entry (CONF:30294) such that it
   1. SHALL contain exactly one [1..1] [SSI Detected Using Toolkit Observation](#E_SSI_Detected_Using_Toolkit_Observation) (identifier: oid:2.16.840.1.113883.10.20.5.6.206) (CONF:30295).
8. SHALL contain exactly one [1..1] entry (CONF:30296) such that it
   1. SHALL contain exactly one [1..1] [Procedure Details Clinical Statement in an Infection-Type Report](#E_Procedure_Details_CS_in_an_InfectionT) (identifier: oid:2.16.840.1.113883.10.20.5.6.154) (CONF:30297).

Figure 8: Infection Details Section in an SSI Report Example

<section>

<!-- HAI Generic Section template -->

< templateId root="2.16.840.1.113883.10.20.5.4.26"/>

<!-- HAI Infection Details Section in an SSI Report template -->

<templateId root="2.16.840.1.113883.10.20.5.5.39.2"/>

<code codeSystem="2.16.840.1.113883.6.1"

codeSystemName="LOINC"

code="51899-3"

displayName="Details Section"/>

<title>Details</title>

...

<entry>

<observation>

<!-- Infection-Type Observation template -->

<templateId root="2.16.840.1.113883.10.20.5.6.139"/>

...

</observation>

</entry>

<entry>

<observation>

<!-- Death Observation template -->

<templateId root="2.16.840.1.113883.10.20.5.6.120"/>

...

</observation>

</entry>

<entry>

<observation>

<!-- Infection Present at the Time of Surgery Observation -->

<templateId root="2.16.840.1.113883.10.20.5.6.205"/>

...

</observation>

</entry>

<entry>

<observation>

<!-- SSI Detected Using Toolkit Observation -->

<templateId root="2.16.840.1.113883.10.20.5.6.206"/>

...

</observation>

</entry>

<entry>

<procedure>

<!-- Procedure Details Clinical Statement in an Infection-Type Report template -->

<templateId root="2.16.840.1.113883.10.20.5.6.154"/>

...

</procedure>

</entry>

</section>

Infection Risk Factors Section in a BSI Report

[section: identifier oid:2.16.840.1.113883.10.20.5.5.33 (closed)]

Table 57: Infection Risk Factors Section in a BSI Report Contexts

| Contained By: | Contains: |
| --- | --- |
| [HAI Bloodstream Infection Report (BSI)](#HAI_Bloodstream_Infection_Report_BSI_R1) (required) | [Infection Risk Factors Measurement Observation](#E_Infection_Risk_Factors_Measurement_Ob)  [Infection Risk Factors Observation](#E_Infection_Risk_Factors_Observation) |

In a BSI Report, the Infection Risk Factors Section contains Infection Risk Factors Observations and optionally Infection Risk Factors Measurement Observations depending on the location type, specified by ClinicalDocument/componentOf/encompassingEncounter/location/ healthcareFacility/code.

Some information requirements in this template depend on the location reporting the infection: ICU/Other (ICU or any other location except for Specialty Care Areas), SCA (Specialty Care Areas), or NICU (Neonatal Intensive Care Unit).

Table 58: Infection Risk Factors Section in a BSI Report Constraints Overview

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| XPath | Card. | Verb | Data Type | CONF# | Value |
| section (identifier: oid:2.16.840.1.113883.10.20.5.5.33) | | | | | |
| templateId | 1..1 | SHALL |  | [22266](#C_22266) |  |
| @root | 1..1 | SHALL |  | [22267](#C_22267) | 2.16.840.1.113883.10.20.5.5.33 |
| code | 1..1 | SHALL |  | [22268](#C_22268) |  |
| @code | 1..1 | SHALL |  | [22269](#C_22269) | 2.16.840.1.113883.6.1 (LOINC) = 51898-5 |
| entry | 1..2 | SHALL |  | [23203](#C_23203) |  |
| observation | 1..1 | SHALL |  | [23204](#C_23204) | [Infection Risk Factors Observation (identifier: oid:2.16.840.1.113883.10.20.5.6.138](#E_Infection_Risk_Factors_Observation) |
| entry | 0..1 | MAY |  | [23208](#C_23208) |  |
| observation | 1..1 | SHALL |  | [23209](#C_23209) | [Infection Risk Factors Measurement Observation (identifier: oid:2.16.840.1.113883.10.20.5.6.137](#E_Infection_Risk_Factors_Measurement_Ob) |

1. Conforms to [HAI Section Generic Constraints](#S_HAI_Section_Generic_Constraints) template (identifier: oid:2.16.840.1.113883.10.20.5.4.26).
2. SHALL contain exactly one [1..1] templateId (CONF:22266) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.5.33" (CONF:22267).
3. SHALL contain exactly one [1..1] code (CONF:22268).
   1. This code SHALL contain exactly one [1..1] @code="51898-5" Risk Factors Section (CodeSystem: LOINC 2.16.840.1.113883.6.1 STATIC) (CONF:22269).
4. SHALL contain at least one and not more than 2 entry (CONF:23203) such that it
   1. SHALL contain exactly one [1..1] [Infection Risk Factors Observation](#E_Infection_Risk_Factors_Observation) (identifier: oid:2.16.840.1.113883.10.20.5.6.138) (CONF:23204).
   2. If the location type represents an ICU/Other location (ICU or any other location except for SCA or NICU), this entry element SHALL be present containing an Infection Risk Factors Observation representing whether a central line was present (CONF:23205).
   3. If  the location type represents an SCA location, an entry element SHALL be present containing an Infection Risk Factors Observation representing whether a permanent central line was present, and an entry element containing an Infection Risk Factors Observation representing whether a Temporary Central Line was present (CONF:23206).
   4. If the location type represents an NICU location, an entry element SHALL be present containing an Infection Risk Factors Observation representing whether a central line was present (CONF:23207).
5. MAY contain zero or one [0..1] entry (CONF:23208) such that it
   1. SHALL contain exactly one [1..1] [Infection Risk Factors Measurement Observation](#E_Infection_Risk_Factors_Measurement_Ob) (identifier: oid:2.16.840.1.113883.10.20.5.6.137) (CONF:23209).
   2. If the location type represents an NICU location, an entry element SHALL be present containing an Infection Risk Factors Measurement Observation representing the birth weight (CONF:23210).

Figure 9: Infection Risk Factors Section in BSI Report Example

<section>

<!-- HAI Generic Section template -->

< templateId root="2.16.840.1.113883.10.20.5.4.26"/>

<!-- HAI Infection Risk Factors Section in a BSI Report template -->

<templateId root="2.16.840.1.113883.10.20.5.5.33"/>

<code codeSystem="2.16.840.1.113883.6.1"

codeSystemName="LOINC"

code="51898-5"

displayName="Risk Factors Section"/>

<title> Risk Factors </title>

...

<entry>

<observation>

<!-- Infection Risk Factors Observation template -->

<templateId root="2.16.840.1.113883.10.20.5.6.138"/>

...

</observation>

</entry>

<entry>

<observation>

<!-- Infection Risk Factors Measurement Observation template -->

<templateId root="2.16.840.1.113883.10.20.5.6.137"/>

...

</observation>

</entry>

</section>

Infection Risk Factors Section in a CLIP Report

[section: identifier oid:2.16.840.1.113883.10.20.5.5.34 (closed)]

Table 59: Infection Risk Factors Section in a CLIP Report Contexts

| Contained By: | Contains: |
| --- | --- |
| [HAI Central-Line Insertion Practice Numerator Report](#HAI_CentralLine_Insertion_Practice_NuR1) (required) | [Central-Line Insertion Practice Clinical Statement](#E_CentralLine_Insertion_Practice_Clinic) |

In a Central Line Insertion Practice Report, the Infection Risk Factors Section contains a single Central-Line Insertion Practice Clinical Statement, which contains a set of sequenced events.

Table 60: Infection Risk Factors Section in a CLIP Report Constraints Overview

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| XPath | Card. | Verb | Data Type | CONF# | Value |
| section (identifier: oid:2.16.840.1.113883.10.20.5.5.34) | | | | | |
| templateId | 1..1 | SHALL |  | [22277](#C_22277) |  |
| @root | 1..1 | SHALL |  | [22278](#C_22278) | 2.16.840.1.113883.10.20.5.5.34 |
| code | 1..1 | SHALL |  | [22273](#C_22273) |  |
| @code | 1..1 | SHALL |  | [22274](#C_22274) | 51898-5 |
| @codeSystem | 1..1 | SHALL |  | [28198](#C_28198) | 2.16.840.1.113883.6.1 (LOINC) = 2.16.840.1.113883.6.1 |
| entry | 1..1 | SHALL |  | [22275](#C_22275) |  |
| act | 1..1 | SHALL |  | [22276](#C_22276) | [Central-Line Insertion Practice Clinical Statement (identifier: oid:2.16.840.1.113883.10.20.5.6.116](#E_CentralLine_Insertion_Practice_Clinic) |

1. Conforms to [HAI Section Generic Constraints](#S_HAI_Section_Generic_Constraints) template (identifier: oid:2.16.840.1.113883.10.20.5.4.26).
2. SHALL contain exactly one [1..1] templateId (CONF:22277) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.5.34" (CONF:22278).
3. SHALL contain exactly one [1..1] code (CONF:22273).
   1. This code SHALL contain exactly one [1..1] @code="51898-5" Risk Factors Section (CONF:22274).
   2. This code SHALL contain exactly one [1..1] @codeSystem="2.16.840.1.113883.6.1" (CodeSystem: LOINC 2.16.840.1.113883.6.1) (CONF:28198).
4. SHALL contain exactly one [1..1] entry (CONF:22275).
   1. This entry SHALL contain exactly one [1..1] [Central-Line Insertion Practice Clinical Statement](#E_CentralLine_Insertion_Practice_Clinic) (identifier: oid:2.16.840.1.113883.10.20.5.6.116) (CONF:22276).

Figure 10: Infection Risk Factors Section in a CLIP Report Example

<section>

<!-- HAI Generic Section template -->

< templateId root="2.16.840.1.113883.10.20.5.4.26"/>

<!-- HAI Infection Risk Factors Section in a CLIP Report template -->

<templateId root="2.16.840.1.113883.10.20.5.5.34"/>

<code codeSystem="2.16.840.1.113883.6.1"

codeSystemName="LOINC"

code="51898-5"

displayName="Risk Factors Section"/>

<title> Risk Factors </title>

...

<entry>

<act>

<!-- Central-Line Insertion Practice Clinical Statement template-->

<templateId root="2.16.840.1.113883.10.20.5.6.116"/>

...

</act>

</entry>

</section>

Infection Risk Factors Section in a Procedure Report

[section: identifier oid:2.16.840.1.113883.10.20.5.5.35 (closed)]

Table 61: Infection Risk Factors Section in a Procedure Report Contexts

| Contained By: | Contains: |
| --- | --- |
| [HAI Procedure Denominator Report (V2)](#D_HAI_Procedure_Denominator_Report_V2) (required) | [ASA Class Observation](#E_ASA_Class_Observation)  [Diabetes Mellitus Observation](#E_Diabetes_Mellitus_Observation)  [Duration of Labor Observation](#E_Duration_of_Labor_Observation)  [Height Observation](#E_Height_Observation)  [Procedure Risk Factors Clinical Statement in a Procedure Report](#E_Procedure_Risk_Factors_Clinical_State)  [Trauma Observation](#E_Trauma_Observation)  [Weight Observation](#E_Weight_Observation) |

In an HAI Procedure Denominator Report, the Infection Risk Factors Section contains procedure risk factors, trauma, diabetes mellitus, height, and weight observations. Optionally contained in this section are ASA class (if the patient is an inpatient) and duration of labor (if the procedure was a Cesaerean) observations.

Table 62: Infection Risk Factors Section in a Procedure Report Constraints Overview

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| XPath | Card. | Verb | Data Type | CONF# | Value |
| section (identifier: oid:2.16.840.1.113883.10.20.5.5.35) | | | | | |
| templateId | 1..1 | SHALL |  | [22279](#C_22279) |  |
| @root | 1..1 | SHALL |  | [22280](#C_22280) | 2.16.840.1.113883.10.20.5.5.35 |
| code | 1..1 | SHALL |  | [22281](#C_22281) |  |
| @code | 1..1 | SHALL |  | [22282](#C_22282) | 2.16.840.1.113883.6.1 (LOINC) = 51898-5 |
| entry | 1..1 | SHALL |  | [22283](#C_22283) |  |
| procedure | 1..1 | SHALL |  | [22284](#C_22284) | [Procedure Risk Factors Clinical Statement in a Procedure Report (identifier: oid:2.16.840.1.113883.10.20.5.6.156](#E_Procedure_Risk_Factors_Clinical_State) |
| entry | 1..1 | SHALL |  | [22285](#C_22285) |  |
| observation | 1..1 | SHALL |  | [22286](#C_22286) | [Trauma Observation (identifier: oid:2.16.840.1.113883.10.20.5.6.170](#E_Trauma_Observation) |
| entry | 1..1 | SHALL |  | [22287](#C_22287) |  |
| observation | 1..1 | SHALL |  | [22288](#C_22288) | [Diabetes Mellitus Observation (identifier: oid:2.16.840.1.113883.10.20.5.6.123](#E_Diabetes_Mellitus_Observation) |
| entry | 1..1 | SHALL |  | [22289](#C_22289) |  |
| observation | 1..1 | SHALL |  | [22290](#C_22290) | [Height Observation (identifier: oid:2.16.840.1.113883.10.20.5.6.131](#E_Height_Observation) |
| entry | 1..1 | SHALL |  | [22291](#C_22291) |  |
| observation | 1..1 | SHALL |  | [22292](#C_22292) | [Weight Observation (identifier: oid:2.16.840.1.113883.10.20.5.6.173](#E_Weight_Observation) |
| entry | 0..1 | MAY |  | [23211](#C_23211) |  |
| observation | 1..1 | SHALL |  | [23212](#C_23212) | [ASA Class Observation (identifier: oid:2.16.840.1.113883.10.20.5.6.113](#E_ASA_Class_Observation) |
| entry | 0..1 | MAY |  | [23214](#C_23214) |  |
| observation | 1..1 | SHALL |  | [23215](#C_23215) | [Duration of Labor Observation (identifier: oid:2.16.840.1.113883.10.20.5.6.127](#E_Duration_of_Labor_Observation) |

1. Conforms to [HAI Section Generic Constraints](#S_HAI_Section_Generic_Constraints) template (identifier: oid:2.16.840.1.113883.10.20.5.4.26).
2. SHALL contain exactly one [1..1] templateId (CONF:22279) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.5.35" (CONF:22280).
3. SHALL contain exactly one [1..1] code (CONF:22281).
   1. This code SHALL contain exactly one [1..1] @code="51898-5" Risk Factors Section (CodeSystem: LOINC 2.16.840.1.113883.6.1 STATIC) (CONF:22282).
4. SHALL contain exactly one [1..1] entry (CONF:22283) such that it
   1. SHALL contain exactly one [1..1] [Procedure Risk Factors Clinical Statement in a Procedure Report](#E_Procedure_Risk_Factors_Clinical_State) (identifier: oid:2.16.840.1.113883.10.20.5.6.156) (CONF:22284).
5. SHALL contain exactly one [1..1] entry (CONF:22285) such that it
   1. SHALL contain exactly one [1..1] [Trauma Observation](#E_Trauma_Observation) (identifier: oid:2.16.840.1.113883.10.20.5.6.170) (CONF:22286).
6. SHALL contain exactly one [1..1] entry (CONF:22287) such that it
   1. SHALL contain exactly one [1..1] [Diabetes Mellitus Observation](#E_Diabetes_Mellitus_Observation) (identifier: oid:2.16.840.1.113883.10.20.5.6.123) (CONF:22288).
7. SHALL contain exactly one [1..1] entry (CONF:22289) such that it
   1. SHALL contain exactly one [1..1] [Height Observation](#E_Height_Observation) (identifier: oid:2.16.840.1.113883.10.20.5.6.131) (CONF:22290).
8. SHALL contain exactly one [1..1] entry (CONF:22291) such that it
   1. SHALL contain exactly one [1..1] [Weight Observation](#E_Weight_Observation) (identifier: oid:2.16.840.1.113883.10.20.5.6.173) (CONF:22292).
9. MAY contain zero or one [0..1] entry (CONF:23211) such that it
   1. SHALL contain exactly one [1..1] [ASA Class Observation](#E_ASA_Class_Observation) (identifier: oid:2.16.840.1.113883.10.20.5.6.113) (CONF:23212).
   2. If the patient is an inpatient (componentOf/encompassingEncounter/code/@code="IMP"), an entry element SHALL be present containing an ASA Class Observation (CONF:23213).
10. MAY contain zero or one [0..1] entry (CONF:23214) such that it
    1. SHALL contain exactly one [1..1] [Duration of Labor Observation](#E_Duration_of_Labor_Observation) (identifier: oid:2.16.840.1.113883.10.20.5.6.127) (CONF:23215).
    2. If the procedure, recorded in the Details Section of the report, was a Cesarean (code/@code is 2115-4), an entry element SHALL be present containing a Duration of Labor Observation (CONF:23216).

Figure 11: Infection Risk Factors Section in Procedure Report Example

<section>

<!-- HAI Generic Section template -->

< templateId root="2.16.840.1.113883.10.20.5.4.26"/>

<!-- HAI Infection Risk Factors Section in a Procedure Report template -->

<templateId root="2.16.840.1.113883.10.20.5.5.35"/>

<code codeSystem="2.16.840.1.113883.6.1"

codeSystemName="LOINC"

code="51898-5"

displayName="Risk Factors Section"/>

<title>Risk Factors</title>

...

<entry>

<procedure>

<!-- Procedure Risk Factors Clinical Statement in a Procedure Report template -->

<templateId root="2.16.840.1.113883.10.20.5.6.156"/>

...

</procedure >

</entry>

<entry>

<observation>

<!-- Trauma Observation template -->

<templateId root="2.16.840.1.113883.10.20.5.6.170"/>

...

</observation>

</entry>

<entry>

<observation>

<!-- Diabetes Mellitus Observation template -->

<templateId root="2.16.840.1.113883.10.20.5.6.123"/>

...

</observation>

</entry>

<entry>

<observation>

<!-- Height Observation template -->

<templateId root="2.16.840.1.113883.10.20.5.6.131"/>

...

</observation>

</entry>

<entry>

<observation>

<!-- Weight Observation template -->

<templateId root="2.16.840.1.113883.10.20.5.6.173"/>

...

</observation>

</entry>

<entry>

<observation>

<!-- ASA Class Observation template -->

<templateId root="2.16.840.1.113883.10.20.5.6.113"/>

...

</observation>

</entry>

<entry>

<observation>

<!-- Duration of Labor Observation template -->

<templateId root="2.16.840.1.113883.10.20.5.6.127"/>

...

</observation>

</entry>

</section>

Infection Risk Factors Section in a UTI Report

[section: identifier oid:2.16.840.1.113883.10.20.5.5.36 (closed)]

Table 63: Infection Risk Factors Section in a UTI Report Contexts

| Contained By: | Contains: |
| --- | --- |
| [HAI Urinary Tract Infection Numerator Report (UTI)](#D_HAI_Urinary_Tract_Infection_Numerator) (required) | [Urinary Catheter Observation](#E_Urinary_Catheter_Observation) |

In a Urinary Tract Infection Report, the Infection Risk Factors Section contains a single Urinary Catheter Observation.

Table 64: Infection Risk Factors Section in a UTI Report Constraints Overview

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| XPath | Card. | Verb | Data Type | CONF# | Value |
| section (identifier: oid:2.16.840.1.113883.10.20.5.5.36) | | | | | |
| templateId | 1..1 | SHALL |  | [22300](#C_22300) |  |
| @root | 1..1 | SHALL |  | [22301](#C_22301) | 2.16.840.1.113883.10.20.5.5.36 |
| code | 1..1 | SHALL |  | [22296](#C_22296) |  |
| @code | 1..1 | SHALL |  | [22297](#C_22297) | 2.16.840.1.113883.6.1 (LOINC) = 51898-5 |
| entry | 1..1 | SHALL |  | [22298](#C_22298) |  |
| observation | 1..1 | SHALL |  | [22299](#C_22299) | [Urinary Catheter Observation (identifier: oid:2.16.840.1.113883.10.20.5.6.171](#E_Urinary_Catheter_Observation) |

1. Conforms to [HAI Section Generic Constraints](#S_HAI_Section_Generic_Constraints) template (identifier: oid:2.16.840.1.113883.10.20.5.4.26).
2. SHALL contain exactly one [1..1] templateId (CONF:22300) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.5.36" (CONF:22301).
3. SHALL contain exactly one [1..1] code (CONF:22296).
   1. This code SHALL contain exactly one [1..1] @code="51898-5" Risk Factors Section (CodeSystem: LOINC 2.16.840.1.113883.6.1 STATIC) (CONF:22297).
4. SHALL contain exactly one [1..1] entry (CONF:22298).
   1. This entry SHALL contain exactly one [1..1] [Urinary Catheter Observation](#E_Urinary_Catheter_Observation) (identifier: oid:2.16.840.1.113883.10.20.5.6.171) (CONF:22299).

Figure 12: Infection Risk Factors Section in a UTI Report Example

<section>

<!-- HAI Generic section template -->

< templateId root="2.16.840.1.113883.10.20.5.4.26"/>

<!-- HAI Infection risk factors section in a UTI report template -->

<templateId root="2.16.840.1.113883.10.20.5.5.36"/>

<code codeSystem="2.16.840.1.113883.6.1"

codeSystemName="LOINC"

code="51898-5"

displayName="Risk Factors Section"/>

<title>Risk Factors</title>

...

<entry>

observation classCode="OBS" moodCode="EVN" negationInd="true">

<!-- C-CDA Problem Observation templateId. -->

<templateId root="2.16.840.1.113883.10.20.22.4.4"/>

<!-- HAI Urinary Catheter Observation templateId-->

<templateId root="2.16.840.1.113883.10.20.5.6.171"/>

...

</observation>

</entry>

</section>

Procedure Details Section in a CLIP Report

[section: identifier oid:2.16.840.1.113883.10.20.5.5.42 (closed)]

Table 65: Procedure Details Section in a CLIP Report Contexts

| Contained By: | Contains: |
| --- | --- |
| [HAI Central-Line Insertion Practice Numerator Report](#HAI_CentralLine_Insertion_Practice_NuR1) (required) | [Procedure Details Clinical Statement in a CLIP Report](#E_Procedure_Details_CS_in_a_CLIP_Report) |

The clinical statements in this section record details of the procedure, including the reason for it.

Table 66: Procedure Details Section in a CLIP Report Constraints Overview

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| XPath | Card. | Verb | Data Type | CONF# | Value |
| section (identifier: oid:2.16.840.1.113883.10.20.5.5.42) | | | | | |
| templateId | 1..1 | SHALL |  | [22352](#C_22352) |  |
| @root | 1..1 | SHALL |  | [22353](#C_22353) | 2.16.840.1.113883.10.20.5.5.42 |
| code | 1..1 | SHALL |  | [22354](#C_22354) |  |
| @code | 1..1 | SHALL |  | [22355](#C_22355) | 2.16.840.1.113883.6.1 (LOINC) = 51899-3 |
| entry | 1..1 | SHALL |  | [22356](#C_22356) |  |
| procedure | 1..1 | SHALL |  | [22357](#C_22357) | [Procedure Details Clinical Statement in a CLIP Report (identifier: oid:2.16.840.1.113883.10.20.5.6.155](#E_Procedure_Details_CS_in_a_CLIP_Report) |

1. Conforms to [HAI Section Generic Constraints](#S_HAI_Section_Generic_Constraints) template (identifier: oid:2.16.840.1.113883.10.20.5.4.26).
2. SHALL contain exactly one [1..1] templateId (CONF:22352) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.5.42" (CONF:22353).
3. SHALL contain exactly one [1..1] code (CONF:22354).
   1. This code SHALL contain exactly one [1..1] @code="51899-3" Details Section (CodeSystem: LOINC 2.16.840.1.113883.6.1 STATIC) (CONF:22355).
4. SHALL contain exactly one [1..1] entry (CONF:22356).
   1. This entry SHALL contain exactly one [1..1] [Procedure Details Clinical Statement in a CLIP Report](#E_Procedure_Details_CS_in_a_CLIP_Report) (identifier: oid:2.16.840.1.113883.10.20.5.6.155) (CONF:22357).

Figure 13: Procedure Details Section in a CLIP Report Example

<section>

<!-- HAI Generic section template -->

< templateId root="2.16.840.1.113883.10.20.5.4.26"/>

<!-- HAI Procedure details section in a CLIP report template -->

<templateId root="2.16.840.1.113883.10.20.5.5.42"/>

<code codeSystem="2.16.840.1.113883.6.1"

codeSystemName="LOINC"

code="51899-3"

displayName="Details Section"/>

<title>Details</title>

...

<entry>

<!-- Procedure Details Clinical Statement in a CLIP Report -->

<procedure moodCode="EVN" classCode="PROC">

<!-- C-CDA Procedure Activity Procedure templateId -->

<templateId root="2.16.840.1.113883.10.20.22.4.14"/>

<-- HAI Procedure Details Clinical Statement in a CLIP Report templateId -->

<templateId root="2.16.840.1.113883.10.20.5.6.155"/>

...

</procedure >

</entry>

</section>

Procedure Details Section in a Procedure Report (V2)

[section: identifier oid:2.16.840.1.113883.10.20.5.5.43.2 (closed)]

Table 67: Procedure Details Section in a Procedure Report (V2) Contexts

| Contained By: | Contains: |
| --- | --- |
| [HAI Procedure Denominator Report (V2)](#D_HAI_Procedure_Denominator_Report_V2) (required) | [Procedure Details Clinical Statement in a Procedure Report (V2)](#Procedure_Details_Clinical_Statement_in) |

The clinical statements in this section record details of the procedure.

Table 68: Procedure Details Section in a Procedure Report (V2) Constraints Overview

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| XPath | Card. | Verb | Data Type | CONF# | Value |
| section (identifier: oid:2.16.840.1.113883.10.20.5.5.43.2) | | | | | |
| templateId | 1..1 | SHALL |  | [22358](#C_22358) |  |
| @root | 1..1 | SHALL |  | [30248](#C_30248) | 2.16.840.1.113883.10.20.5.5.43.2 |
| code | 1..1 | SHALL |  | [22360](#C_22360) |  |
| @code | 1..1 | SHALL |  | [22361](#C_22361) | 2.16.840.1.113883.6.1 (LOINC) = 51899-3 |
| entry | 1..1 | SHALL |  | [22362](#C_22362) |  |
| procedure | 1..1 | SHALL |  | [30249](#C_30249) | [Procedure Details Clinical Statement in a Procedure Report (V2) (identifier: oid:2.16.840.1.113883.10.20.5.6.153.2](#Procedure_Details_Clinical_Statement_in) |

1. Conforms to [HAI Section Generic Constraints](#S_HAI_Section_Generic_Constraints) template (identifier: oid:2.16.840.1.113883.10.20.5.4.26).
2. SHALL contain exactly one [1..1] templateId (CONF:22358) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.5.43.2" (CONF:30248).
3. SHALL contain exactly one [1..1] code (CONF:22360).
   1. This code SHALL contain exactly one [1..1] @code="51899-3" Details Section (CodeSystem: LOINC 2.16.840.1.113883.6.1 STATIC) (CONF:22361).
4. SHALL contain exactly one [1..1] entry (CONF:22362).
   1. This entry SHALL contain exactly one [1..1] [Procedure Details Clinical Statement in a Procedure Report (V2)](#Procedure_Details_Clinical_Statement_in) (identifier: oid:2.16.840.1.113883.10.20.5.6.153.2) (CONF:30249).

Figure 14: Procedure Details Section in a Procedure Report Example

<section>

<!-- HAI Generic Section template -->

< templateId root="2.16.840.1.113883.10.20.5.4.26"/>

<!-- Procedure Details Section in a Procedure Report (V2) template -->

<templateId root="2.16.840.1.113883.10.20.5.5.43.2"/>

<code codeSystem="2.16.840.1.113883.6.1"

codeSystemName="LOINC"

code="51899-3"

displayName="Details Section"/>

<title>Details</title>

...

<entry>

<!-- Procedure Details Clinical Statement in a Procedure Report (V2) -->

<procedure classCode="PROC" moodCode="EVN">

<!-- C-CDA Procedure Activity Procedure templateId -->

<templateId root="2.16.840.1.113883.10.20.22.4.14"/>

<!-- Procedure Details Clinical Statement in a Procedure Report (V2) templateId -->

<templateId root="2.16.840.1.113883.10.20.5.6.153.2"/>

...

</procedure>

</entry>

</section>

Risk Factors Section in an Evidence of Infection (Dialysis) Report

[section: identifier oid:2.16.840.1.113883.10.20.5.5.37 (closed)]

Table 69: Risk Factors Section in an Evidence of Infection (Dialysis) Report Contexts

| Contained By: | Contains: |
| --- | --- |
| [HAI Evidence of Infection (Dialysis) Report (V2)](#D_HAI_Evidence_of_Infection_Dialysis_V2) (required) | [Dialysis Patient Observation](#E_Dialysis_Patient_Observation)  [Vascular Access Type Observation](#E_Vascular_Access_Type_Observation) |

In an Evidence of Infection (Dialysis) Report, the Risk Factors Section contains at least one Vascular Access Type Observation for each value in the NHSNVascularAccessTypeCode Value Set. An additional such observation records whether a vascular access type other than those listed is present.

Table 70: Risk Factors Section in an Evidence of Infection (Dialysis) Report Constraints Overview

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| XPath | Card. | Verb | Data Type | CONF# | Value |
| section (identifier: oid:2.16.840.1.113883.10.20.5.5.37) | | | | | |
| templateId | 1..1 | SHALL |  | [22302](#C_22302) |  |
| @root | 1..1 | SHALL |  | [22303](#C_22303) | 2.16.840.1.113883.10.20.5.5.37 |
| code | 1..1 | SHALL |  | [22304](#C_22304) |  |
| @code | 1..1 | SHALL |  | [22305](#C_22305) | 2.16.840.1.113883.6.1 (LOINC) = 51898-5 |
| entry | 1..1 | SHALL |  | [22306](#C_22306) |  |
| observation | 1..1 | SHALL |  | [22307](#C_22307) | [Dialysis Patient Observation (identifier: oid:2.16.840.1.113883.10.20.5.6.125](#E_Dialysis_Patient_Observation) |
| entry | 6..6 | SHALL |  | [22308](#C_22308) |  |
| observation | 1..1 | SHALL |  | [22309](#C_22309) | [Vascular Access Type Observation (identifier: oid:2.16.840.1.113883.10.20.5.6.172](#E_Vascular_Access_Type_Observation) |

1. Conforms to [HAI Section Generic Constraints](#S_HAI_Section_Generic_Constraints) template (identifier: oid:2.16.840.1.113883.10.20.5.4.26).
2. SHALL contain exactly one [1..1] templateId (CONF:22302) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.5.37" (CONF:22303).
3. SHALL contain exactly one [1..1] code (CONF:22304).
   1. This code SHALL contain exactly one [1..1] @code="51898-5" Risk Factors Section (CodeSystem: LOINC 2.16.840.1.113883.6.1 STATIC) (CONF:22305).
4. SHALL contain exactly one [1..1] entry (CONF:22306) such that it
   1. SHALL contain exactly one [1..1] [Dialysis Patient Observation](#E_Dialysis_Patient_Observation) (identifier: oid:2.16.840.1.113883.10.20.5.6.125) (CONF:22307).
5. SHALL contain [6..6] entry (CONF:22308) such that it
   1. SHALL contain exactly one [1..1] [Vascular Access Type Observation](#E_Vascular_Access_Type_Observation) (identifier: oid:2.16.840.1.113883.10.20.5.6.172) (CONF:22309).

Figure 15: Risk Factors Section in an EOID Report Example

<section>

<!-- HAI Generic Section template -->

< templateId root="2.16.840.1.113883.10.20.5.4.26"/>

<!-- HAI Risk Factors Section in an EOID Report template -->

<templateId root="2.16.840.1.113883.10.20.5.5.37"/>

<code codeSystem="2.16.840.1.113883.6.1"

codeSystemName="LOINC"

code="51898-5"

displayName=" Risk Factors Section"/>

<title>Risk Factors</title>

...

<entry typeCode="DRIV">

<observation classCode="OBS" moodCode="EVN" negationInd="false">

<!-- C-CDA Problem Observation -->

<templateId root="2.16.840.1.113883.10.20.22.4.4"/>

<!-- HAI Dialysis Patient Observation -->

<templateId root="2.16.840.1.113883.10.20.5.6.125"/>

...

</observation>

</entry>

<entry typeCode="DRIV">

<observation classCode="OBS" moodCode="EVN" negationInd="false">

<!-- C-CDA Problem Observation Type -->

<templateId root="2.16.840.1.113883.10.20.22.4.4"/>

<!-- HAI Vascular Access Type Observation -->

<templateId root="2.16.840.1.113883.10.20.5.6.172"/>

...

</observation>

</entry>

<entry typeCode="DRIV">

<observation classCode="OBS" moodCode="EVN" negationInd="false">

<!-- C-CDA Problem Observation Type -->

<templateId root="2.16.840.1.113883.10.20.22.4.4"/>

<!-- HAI Vascular Access Type Observation -->

<templateId root="2.16.840.1.113883.10.20.5.6.172"/>

...

</observation>

</entry>

...

</section>

Summary Data Section (ARO)

[section: identifier oid:2.16.840.1.113883.10.20.5.5.52 (closed)]

Table 71: Summary Data Section (ARO) Contexts

| Contained By: | Contains: |
| --- | --- |
| [Antimicrobial Resistance Option (ARO) Summary Report](#Antimicrobial_Resistance_Option_ARO_Sum) (required) | [Summary Encounter (ARO)](#E_Summary_Encounter_ARO_R1) |

The Summary Data Section is used in a population summary report. The specific counts to be reported in the Summary Data Section vary by report topic, but the section itself conveys the same kind of information wherever used; therefore, the section is represented by the same LOINC section code whatever the data reported. The Summary Data Section (ARO) extends its generic equivalent but is specific to the Antimicrobial Resistance Option (ARO) Summary Report.

Table 72: Summary Data Section (ARO) Constraints Overview

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| XPath | Card. | Verb | Data Type | CONF# | Value |
| section (identifier: oid:2.16.840.1.113883.10.20.5.5.52) | | | | | |
| templateId | 1..1 | SHALL |  | [23070](#C_23070) |  |
| @root | 1..1 | SHALL |  | [23071](#C_23071) | 2.16.840.1.113883.10.20.5.5.52 |
| code | 1..1 | SHALL |  | [23072](#C_23072) |  |
| @code | 1..1 | SHALL |  | [23073](#C_23073) | 2.16.840.1.113883.6.1 (LOINC) = 51900-9 |
| entry | 1..\* | SHALL |  | [23074](#C_23074) |  |
| encounter | 1..1 | SHALL |  | [23075](#C_23075) | [Summary Encounter (ARO) (identifier: oid:2.16.840.1.113883.10.20.5.6.199](#E_Summary_Encounter_ARO_R1) |

1. Conforms to [HAI Section Generic Constraints](#S_HAI_Section_Generic_Constraints) template (identifier: oid:2.16.840.1.113883.10.20.5.4.26).
2. SHALL contain exactly one [1..1] templateId (CONF:23070) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.5.52" (CONF:23071).
3. SHALL contain exactly one [1..1] code (CONF:23072).
   1. This code SHALL contain exactly one [1..1] @code="51900-9" Summary Data Section (CodeSystem: LOINC 2.16.840.1.113883.6.1 STATIC) (CONF:23073).
4. SHALL contain at least one [1..\*] entry (CONF:23074).
   1. Such entries SHALL contain exactly one [1..1] [Summary Encounter (ARO)](#E_Summary_Encounter_ARO_R1) (identifier: oid:2.16.840.1.113883.10.20.5.6.199) (CONF:23075).

Figure 16: Summary Data Section (ARO) Example

<section>

<!-- HAI Generic Section template -->

< templateId root="2.16.840.1.113883.10.20.5.4.26"/>

<!-- HAI Summary Data Section (ARO) template -->

<templateId root="2.16.840.1.113883.10.20.5.5.52"/>

<code codeSystem="2.16.840.1.113883.6.1"

codeSystemName="LOINC"

code="51900-9"

displayName="Summary Data Section"/>

...

<entry>

<encounter>

<!-- HAI Summary Encounter (ARO) template -->

<templateId root="2.16.840.1.113883.10.20.5.6.199"/>

...

</encounter>

</entry>

</section>

Summary Data Section (AUP)

[section: identifier oid:2.16.840.1.113883.10.20.5.5.51 (closed)]

Table 73: Summary Data Section (AUP) Contexts

| Contained By: | Contains: |
| --- | --- |
| [Antimicrobial Use (AUP) Summary Report](#Antimicrobial_Use_AUP_Summary_Report_R1) (required) | [Summary Encounter (AUP)](#E_Summary_Encounter_AUP)  [Summary Encounter Patient Presence (AUP)](#E_Summary_Encounter_Patient_Presence_AU) |

The Summary Data Section is used in a population summary report. The specific counts to be reported in the Summary Data Section vary by report topic, but the section itself conveys the same kind of information wherever used; therefore, the section is represented by the same LOINC section code and templateId whatever the data reported.

Table 74: Summary Data Section (AUP) Constraints Overview

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| XPath | Card. | Verb | Data Type | CONF# | Value |
| section (identifier: oid:2.16.840.1.113883.10.20.5.5.51) | | | | | |
| templateId | 1..1 | SHALL |  | [23013](#C_23013) |  |
| @root | 1..1 | SHALL |  | [23014](#C_23014) | 2.16.840.1.113883.10.20.5.5.51 |
| code | 1..1 | SHALL |  | [23015](#C_23015) |  |
| @code | 1..1 | SHALL |  | [23016](#C_23016) | 2.16.840.1.113883.6.1 (LOINC) = 51900-9 |
| entry | 1..1 | SHALL |  | [23017](#C_23017) |  |
| encounter | 1..1 | SHALL |  | [23018](#C_23018) | [Summary Encounter Patient Presence (AUP) (identifier: oid:2.16.840.1.113883.10.20.5.6.197](#E_Summary_Encounter_Patient_Presence_AU) |
| entry | 1..\* | SHALL |  | [23046](#C_23046) |  |
| encounter | 1..1 | SHALL |  | [23047](#C_23047) | [Summary Encounter (AUP) (identifier: oid:2.16.840.1.113883.10.20.5.6.198](#E_Summary_Encounter_AUP) |

1. Conforms to [HAI Section Generic Constraints](#S_HAI_Section_Generic_Constraints) template (identifier: oid:2.16.840.1.113883.10.20.5.4.26).
2. SHALL contain exactly one [1..1] templateId (CONF:23013) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.5.51" (CONF:23014).
3. SHALL contain exactly one [1..1] code (CONF:23015).
   1. This code SHALL contain exactly one [1..1] @code="51900-9" Summary Data Section (CodeSystem: LOINC 2.16.840.1.113883.6.1 STATIC) (CONF:23016).
4. SHALL contain exactly one [1..1] entry (CONF:23017) such that it
   1. SHALL contain exactly one [1..1] [Summary Encounter Patient Presence (AUP)](#E_Summary_Encounter_Patient_Presence_AU) (identifier: oid:2.16.840.1.113883.10.20.5.6.197) (CONF:23018).
5. SHALL contain at least one [1..\*] entry (CONF:23046) such that it
   1. SHALL contain exactly one [1..1] [Summary Encounter (AUP)](#E_Summary_Encounter_AUP) (identifier: oid:2.16.840.1.113883.10.20.5.6.198) (CONF:23047).

Figure 17: Summary Data Section (AUP) Example

<section>

<!-- HAI Generic Section template -->

< templateId root="2.16.840.1.113883.10.20.5.4.26"/>

<!-- HAI Summary Data Section (AUP) template -->

<templateId root="2.16.840.1.113883.10.20.5.5.51"/>

<code codeSystem="2.16.840.1.113883.6.1"

codeSystemName="LOINC"

code="51900-9"

displayName="Summary Data Section"/>

...

<entry>

<encounter>

<!-- HAI Summary Encounter Patient Presence (AUP)template -->

<templateId root="2.16.840.1.113883.10.20.5.6.197"/>

...

</encounter>

</entry>

<entry>

<encounter>

<!-- HAI Summary Encounter (AUP) template -->

<templateId root="2.16.840.1.113883.10.20.5.6.198"/>

...

</encounter>

</entry>

<entry>

<encounter>

...

</encounter>

</entry>

</section>

Summary Data Section (NICU)

[section: identifier oid:2.16.840.1.113883.10.20.5.5.48 (closed)]

Table 75: Summary Data Section (NICU) Contexts

| Contained By: | Contains: |
| --- | --- |
| [Neonatal Intensive Care Unit (NICU) Summary Report](#D_Neonatal_Intensive_Care_Unit_NICU_Sum) (required) | [Summary Encounter (NICU)](#E_Summary_Encounter_NICU) |

The Summary Data Section is used in a population summary report. The specific counts to be reported in the Summary Data Section vary by report topic, but the section itself conveys the same kind of information wherever used; therefore, the section is represented by the same LOINC section code and templateId whatever the data reported.

The NICU Report extends the simple pattern for Summary Encounter. This report is stratified by birth weight. Each category is recorded in a separate Summary Encounter. The category is recorded as a participant in the encounter, in addition to the location participant that is required in all Summary Encounters.

Table 76: Summary Data Section (NICU) Constraints Overview

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| XPath | Card. | Verb | Data Type | CONF# | Value |
| section (identifier: oid:2.16.840.1.113883.10.20.5.5.48) | | | | | |
| templateId | 1..1 | SHALL |  | [22837](#C_22837) |  |
| @root | 1..1 | SHALL |  | [22838](#C_22838) | 2.16.840.1.113883.10.20.5.5.48 |
| code | 1..1 | SHALL |  | [22839](#C_22839) |  |
| @code | 1..1 | SHALL |  | [22840](#C_22840) | 2.16.840.1.113883.6.1 (LOINC) = 51900-9 |
| entry | 1..\* | SHALL |  | [22841](#C_22841) |  |
| encounter | 1..1 | SHALL |  | [22842](#C_22842) | [Summary Encounter (NICU) (identifier: oid:2.16.840.1.113883.10.20.5.6.191](#E_Summary_Encounter_NICU) |

1. Conforms to [HAI Section Generic Constraints](#S_HAI_Section_Generic_Constraints) template (identifier: oid:2.16.840.1.113883.10.20.5.4.26).
2. SHALL contain exactly one [1..1] templateId (CONF:22837) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.5.48" (CONF:22838).
3. SHALL contain exactly one [1..1] code (CONF:22839).
   1. This code SHALL contain exactly one [1..1] @code="51900-9" Summary Data Section (CodeSystem: LOINC 2.16.840.1.113883.6.1 STATIC) (CONF:22840).
4. SHALL contain at least one [1..\*] entry (CONF:22841).
   1. Such entries SHALL contain exactly one [1..1] [Summary Encounter (NICU)](#E_Summary_Encounter_NICU) (identifier: oid:2.16.840.1.113883.10.20.5.6.191) (CONF:22842).

Figure 18: Summary Data Section (NICU) Example

<section>

<!-- HAI Generic Section template -->

< templateId root="2.16.840.1.113883.10.20.5.4.26"/>

<!-- HAI Summary Data Section (NICU) template -->

<templateId root="2.16.840.1.113883.10.20.5.5.48"/>

<code codeSystem="2.16.840.1.113883.6.1"

codeSystemName="LOINC"

code="51900-9"

displayName="Summary Data Section"/>

...

<entry>

<encounter>

<!-- HAI Summary Encounter (NICU) template -->

<templateId root="2.16.840.1.113883.10.20.5.6.191"/>

...

</encounter>

</entry>

</section>

Summary Data Section (POM)

[section: identifier oid:2.16.840.1.113883.10.20.5.5.49 (closed)]

Table 77: Summary Data Section (POM) Contexts

| Contained By: | Contains: |
| --- | --- |
| [Prevention Process and Outcome Measures (POM) Summary Report](#D_Prevention_Process_and_Outcome_Measur) (required) | [Summary Encounter (POM)](#E_Summary_Encounter_POM) |

The Summary Data Section is used in a population summary report. The specific counts to be reported in the Summary Data Section vary by report topic, but the section itself conveys the same kind of information wherever used; therefore, the section is represented by the same LOINC section code and templateId whatever the data reported.

The POM report typically reports data for an in-facility location, but under some circumstances the NHSN protocol also requires facility-wide data. Use one Summary Encounter to report the data for the in-facility location, and a separate Summary Encounter to report the facility-wide data.

Table 78: Summary Data Section (POM) Constraints Overview

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| XPath | Card. | Verb | Data Type | CONF# | Value |
| section (identifier: oid:2.16.840.1.113883.10.20.5.5.49) | | | | | |
| templateId | 1..1 | SHALL |  | [22880](#C_22880) |  |
| @root | 1..1 | SHALL |  | [22881](#C_22881) | 2.16.840.1.113883.10.20.5.5.49 |
| code | 1..1 | SHALL |  | [22882](#C_22882) |  |
| @code | 1..1 | SHALL |  | [22883](#C_22883) | 2.16.840.1.113883.6.1 (LOINC) = 51900-9 |
| entry | 1..\* | SHALL |  | [22884](#C_22884) |  |
| encounter | 1..1 | SHALL |  | [22885](#C_22885) | [Summary Encounter (POM) (identifier: oid:2.16.840.1.113883.10.20.5.6.193](#E_Summary_Encounter_POM) |

1. Conforms to [HAI Section Generic Constraints](#S_HAI_Section_Generic_Constraints) template (identifier: oid:2.16.840.1.113883.10.20.5.4.26).
2. SHALL contain exactly one [1..1] templateId (CONF:22880) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.5.49" (CONF:22881).
3. SHALL contain exactly one [1..1] code (CONF:22882).
   1. This code SHALL contain exactly one [1..1] @code="51900-9" Summary Data Section (CodeSystem: LOINC 2.16.840.1.113883.6.1 STATIC) (CONF:22883).
4. SHALL contain at least one [1..\*] entry (CONF:22884).
   1. Such entries SHALL contain exactly one [1..1] [Summary Encounter (POM)](#E_Summary_Encounter_POM) (identifier: oid:2.16.840.1.113883.10.20.5.6.193) (CONF:22885).

Figure 19: Summary Data Section (POM) Example

<section>

<!-- HAI Generic Section template -->

< templateId root="2.16.840.1.113883.10.20.5.4.26"/>

<!-- HAI Summary Data Section (POM) template -->

<templateId root="2.16.840.1.113883.10.20.5.5.49"/>

<code codeSystem="2.16.840.1.113883.6.1"

codeSystemName="LOINC"

code="51900-9"

displayName="Summary Data Section"/>

...

<entry>

<encounter>

<!-- HAI Summary Encounter (POM) template -->

<templateId root="2.16.840.1.113883.10.20.5.6.193"/>

...

</encounter>

</entry>

</section>

Summary Data Section

[section: identifier oid:2.16.840.1.113883.10.20.5.5.47 (closed)]

Table 79: Summary Data Section Contexts

| Contained By: | Contains: |
| --- | --- |
| [Intensive Care Unit (ICU) Summary Report](#D_Intensive_Care_Unit_ICU_Summary_Repor) (required)  [Specialty Care Area (SCA) Summary Report](#D_Specialty_Care_Area_SCA_Summary_Repor) (required) | [Summary Encounter](#E_Summary_Encounter) |

The Summary Data Section is used in a population summary report. The specific counts to be reported in the Summary Data Section vary by report topic, but the section itself conveys the same kind of information wherever used; therefore, the section is represented by the same LOINC section code and templateId whatever the data reported.

The Summary Encounter requires a participant representing the facility or in-facility location to which the data pertain. Most summary reports contain data for a single location. To report data for more than one location, use a separate Summary Encounter element for each. For example, a POM report typically reports data for an in-facility location, but under some circumstances the NHSN protocol also requires facility-wide data. Use one Summary Encounter to report the data for the in-facility location, and a separate Summary Encounter to report the facility-wide data.

If the data in a population summary report are categorized--as, for example, data on a NICU population are categorized by patient birth weight--each category is represented by a separate Summary Encounter element. If there is no categorization, the report concerns a group that has only one category and it therefore will contain only one Summary Data Encounter element. This is the usual case.

Table 80: Summary Data Section Constraints Overview

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| XPath | Card. | Verb | Data Type | CONF# | Value |
| section (identifier: oid:2.16.840.1.113883.10.20.5.5.47) | | | | | |
| templateId | 1..1 | SHALL |  | [22386](#C_22386) |  |
| @root | 1..1 | SHALL |  | [22387](#C_22387) | 2.16.840.1.113883.10.20.5.5.47 |
| code | 1..1 | SHALL |  | [22388](#C_22388) |  |
| @code | 1..1 | SHALL |  | [22389](#C_22389) | 2.16.840.1.113883.6.1 (LOINC) = 51900-9 |
| entry | 1..\* | SHALL |  | [22390](#C_22390) |  |
| encounter | 1..1 | SHALL |  | [22391](#C_22391) | [Summary Encounter (identifier: oid:2.16.840.1.113883.10.20.5.6.184](#E_Summary_Encounter) |

1. Conforms to [HAI Section Generic Constraints](#S_HAI_Section_Generic_Constraints) template (identifier: oid:2.16.840.1.113883.10.20.5.4.26).
2. SHALL contain exactly one [1..1] templateId (CONF:22386) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.5.47" (CONF:22387).
3. SHALL contain exactly one [1..1] code (CONF:22388).
   1. This code SHALL contain exactly one [1..1] @code="51900-9" Summary Data Section (CodeSystem: LOINC 2.16.840.1.113883.6.1 STATIC) (CONF:22389).
4. SHALL contain at least one [1..\*] entry (CONF:22390).
   1. Such entries SHALL contain exactly one [1..1] [Summary Encounter](#E_Summary_Encounter) (identifier: oid:2.16.840.1.113883.10.20.5.6.184) (CONF:22391).

Figure 20: Summary Data Section Example

<section>

<!-- HAI Generic Section template -->

< templateId root="2.16.840.1.113883.10.20.5.4.26"/>

<!-- HAI Summary Data Section template -->

<templateId root="2.16.840.1.113883.10.20.5.5.47"/>

<code codeSystem="2.16.840.1.113883.6.1"

codeSystemName="LOINC"

code="51900-9"

displayName="Summary Data Section"/>

...

<entry>

<encounter>

<!-- HAI Summary Encounter template -->

<templateId root="2.16.840.1.113883.10.20.5.5.184"/>

...

</encounter>

</entry>

<entry>

<encounter>

...

</encounter>

</entry>

</section>

Summary Data Section (VAT)

[section: identifier oid:2.16.840.1.113883.10.20.5.5.50 (closed)]

Table 81: Summary Data Section (VAT) Contexts

| Contained By: | Contains: |
| --- | --- |
| [Vascular Access Type Report (VAT) Summary Report](#D_Vascular_Access_Type_Report_VAT_Summa) (required) | [Summary Encounter (VAT)](#E_Summary_Encounter_VAT) |

The Summary Data Section is used in a population summary report. The specific counts to be reported in the Summary Data Section vary by report topic, but the section itself conveys the same kind of information wherever used; therefore, the section is represented by the same LOINC section code and templateId whatever the data reported.

Table 82: Summary Data Section (VAT) Constraints Overview

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| XPath | Card. | Verb | Data Type | CONF# | Value |
| section (identifier: oid:2.16.840.1.113883.10.20.5.5.50) | | | | | |
| templateId | 1..1 | SHALL |  | [22945](#C_22945) |  |
| @root | 1..1 | SHALL |  | [22946](#C_22946) | 2.16.840.1.113883.10.20.5.5.50 |
| code | 1..1 | SHALL |  | [22947](#C_22947) |  |
| @code | 1..1 | SHALL |  | [22948](#C_22948) | 2.16.840.1.113883.6.1 (LOINC) = 51900-9 |
| entry | 1..\* | SHALL |  | [22949](#C_22949) |  |
| encounter | 1..1 | SHALL |  | [22950](#C_22950) | [Summary Encounter (VAT) (identifier: oid:2.16.840.1.113883.10.20.5.6.196](#E_Summary_Encounter_VAT) |

1. Conforms to [HAI Section Generic Constraints](#S_HAI_Section_Generic_Constraints) template (identifier: oid:2.16.840.1.113883.10.20.5.4.26).
2. SHALL contain exactly one [1..1] templateId (CONF:22945) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.5.50" (CONF:22946).
3. SHALL contain exactly one [1..1] code (CONF:22947).
   1. This code SHALL contain exactly one [1..1] @code="51900-9" Summary Data Section (CodeSystem: LOINC 2.16.840.1.113883.6.1 STATIC) (CONF:22948).
4. SHALL contain at least one [1..\*] entry (CONF:22949).
   1. Such entries SHALL contain exactly one [1..1] [Summary Encounter (VAT)](#E_Summary_Encounter_VAT) (identifier: oid:2.16.840.1.113883.10.20.5.6.196) (CONF:22950).

Figure 21: Summary Data Section (VAT) Example

<section>

<!-- HAI Generic Section template -->

< templateId root="2.16.840.1.113883.10.20.5.4.26"/>

<!-- HAI Summary Data Section (VAT) template -->

<templateId root="2.16.840.1.113883.10.20.5.5.50"/>

<code codeSystem="2.16.840.1.113883.6.1"

codeSystemName="LOINC"

code="51900-9"

displayName="Summary Data Section"/>

...

<entry>

<encounter>

<!-- HAI Summary Encounter (VAT) template -->

<templateId root="2.16.840.1.113883.10.20.5.6.196"/>

...

</encounter>

</entry>

</section>

# Entry-Level Templates

Anesthesia Administration Clinical Statement

[substanceAdministration: identifier oid:2.16.840.1.113883.10.20.5.6.112 (closed)]

Table 83: Anesthesia Administration Clinical Statement Contexts

| Contained By: | Contains: |
| --- | --- |
| [Procedure Details Clinical Statement in a Procedure Report (V2)](#Procedure_Details_Clinical_Statement_in) (required) |  |

This clinical statement reports whether anesthesia was administered.

If anesthesia was not administered, set the value of @negationInd to true. If anesthesia was administered, set the value of @negationInd to false.

Table 84: Anesthesia Administration Clinical Statement Constraints Overview

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| XPath | Card. | Verb | Data Type | CONF# | Value |
| substanceAdministration (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.112) | | | | | |
| @classCode | 1..1 | SHALL |  | [19560](#C_19560) | 2.16.840.1.113883.5.6 (HL7ActClass) = SBADM |
| @moodCode | 1..1 | SHALL |  | [19561](#C_19561) | 2.16.840.1.113883.5.1001 (ActMood) = EVN |
| @negationInd | 1..1 | SHALL |  | [19562](#C_19562) |  |
| templateId | 1..1 | SHALL |  | [28201](#C_28201) |  |
| @root | 1..1 | SHALL |  | [28202](#C_28202) | 2.16.840.1.113883.10.20.22.4.16 |
| templateId | 1..1 | SHALL |  | [19570](#C_19570) |  |
| @root | 1..1 | SHALL |  | [19571](#C_19571) | 2.16.840.1.113883.10.20.5.6.112 |
| id | 1..1 | SHALL |  | [19572](#C_19572) |  |
| @nullFlavor | 1..1 | SHALL |  | [22720](#C_22720) | NA |
| statusCode | 1..1 | SHALL |  | [19573](#C_19573) |  |
| @code | 1..1 | SHALL |  | [19574](#C_19574) | 2.16.840.1.113883.5.14 (ActStatus) = completed |
| effectiveTime | 1..1 | SHALL | IVL\_TS | [28331](#C_28331) |  |
| low | 1..1 | SHALL |  | [28332](#C_28332) |  |
| @nullFlavor | 1..1 | SHALL |  | [28335](#C_28335) | 2.16.840.1.113883.5.1008 (HL7NullFlavor) = NA |
| high | 1..1 | SHALL |  | [28333](#C_28333) |  |
| @nullFlavor | 1..1 | SHALL |  | [28336](#C_28336) | 2.16.840.1.113883.5.1008 (HL7NullFlavor) = NA |
| consumable | 1..1 | SHALL |  | [19563](#C_19563) |  |
| manufacturedProduct | 1..1 | SHALL |  | [19578](#C_19578) |  |
| @classCode | 1..1 | SHALL |  | [28349](#C_28349) | 2.16.840.1.113883.5.110 (RoleClass) = MANU |
| templateId | 1..1 | SHALL |  | [28334](#C_28334) |  |
| @root | 1..1 | SHALL |  | [28337](#C_28337) | 2.16.840.1.113883.10.20.22.4.23 |
| manufacturedMaterial | 1..1 | SHALL |  | [19579](#C_19579) |  |
| code | 1..1 | SHALL |  | [19580](#C_19580) |  |
| @code | 1..1 | SHALL |  | [19581](#C_19581) | 84451006 |
| @codeSystem | 1..1 | SHALL |  | [19582](#C_19582) | 2.16.840.1.113883.6.96 |

1. Conforms to Medication Activity template (identifier: oid:2.16.840.1.113883.10.20.22.4.16).
2. SHALL contain exactly one [1..1] @classCode="SBADM" Substance administration (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 STATIC) (CONF:19560).
3. SHALL contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 STATIC) (CONF:19561).
4. SHALL contain exactly one [1..1] @negationInd (CONF:19562).
5. SHALL contain exactly one [1..1] templateId (CONF:28201) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.4.16" (CONF:28202).
6. SHALL contain exactly one [1..1] templateId (CONF:19570) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.6.112" (CONF:19571).
7. SHALL contain exactly one [1..1] id (CONF:19572).
   1. This id SHALL contain exactly one [1..1] @nullFlavor="NA" (CONF:22720).
8. SHALL contain exactly one [1..1] statusCode (CONF:19573).
   1. This statusCode SHALL contain exactly one [1..1] @code="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14) (CONF:19574).
9. SHALL contain exactly one [1..1] effectiveTime (CONF:28331).
   1. This effectiveTime SHALL contain exactly one [1..1] low (CONF:28332).
      1. This low SHALL contain exactly one [1..1] @nullFlavor="NA" (CodeSystem: HL7NullFlavor 2.16.840.1.113883.5.1008) (CONF:28335).
   2. This effectiveTime SHALL contain exactly one [1..1] high (CONF:28333).
      1. This high SHALL contain exactly one [1..1] @nullFlavor="NA" (CodeSystem: HL7NullFlavor 2.16.840.1.113883.5.1008) (CONF:28336).
10. SHALL contain exactly one [1..1] consumable (CONF:19563).
    1. This consumable SHALL contain exactly one [1..1] manufacturedProduct (CONF:19578).
       1. This manufacturedProduct SHALL contain exactly one [1..1] @classCode="MANU" (CodeSystem: RoleClass 2.16.840.1.113883.5.110) (CONF:28349).
       2. This manufacturedProduct SHALL contain exactly one [1..1] templateId (CONF:28334) such that it
          1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.4.23" (CONF:28337).
       3. This manufacturedProduct SHALL contain exactly one [1..1] manufacturedMaterial (CONF:19579).
          1. This manufacturedMaterial SHALL contain exactly one [1..1] code (CONF:19580).
             1. This code SHALL contain exactly one [1..1] @code="84451006" General Anesthesia (CONF:19581).
             2. This code SHALL contain exactly one [1..1] @codeSystem="2.16.840.1.113883.6.96" (CONF:19582).

Figure 22: Anesthesia Administration Clinical Statement Example

<substanceAdministration classCode="SBADM" moodCode="EVN" negationInd="false">

<!-- C-CDA Medication Activity templteId -->

<templateId root="2.16.840.1.113883.10.20.22.4.16" />

<!-- HAI Anesthesia Administration Clinical Statement templateId -->

<templateId root="2.16.840.1.113883.10.20.5.6.112" />

<id nullFlavor="NA" />

<statusCode code="completed" />

<effectiveTime xsi:type="IVL\_TS">

<low nullFlavor="NA" />

<high nullFlavor="NA" />

</effectiveTime>

<consumable>

<manufacturedProduct classCode="MANU">

<templateId root="2.16.840.1.113883.10.20.22.4.23" />

<manufacturedMaterial>

<code codeSystem="2.16.840.1.113883.6.96"

codeSystemName="SNOMED CT"

code="84451006"

displayName="General anesthesia" />

</manufacturedMaterial>

</manufacturedProduct>

</consumable>

</substanceAdministration>

Antimicrobial Susceptibility Antibiotic

[participant: identifier oid:2.16.840.1.113883.10.20.5.6.176 (closed)]

Table 85: Antimicrobial Susceptibility Antibiotic Contexts

| Contained By: | Contains: |
| --- | --- |
| [Antimicrobial Susceptibility Tests Organizer](#E_Antimicrobial_Susceptibility_Tests_Or) (required) |  |

This clinical statement represents the antimicrobial agent for which susceptibilities are reported against a certain pathogen. The antimicrobial agent is specified in the participant/participantRole/playingEntity/code element.

Table 86: Antimicrobial Susceptibility Antibiotic Constraints Overview

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| XPath | Card. | Verb | Data Type | CONF# | Value |
| participant (identifier: oid:2.16.840.1.113883.10.20.5.6.176) | | | | | |
| @typeCode | 1..1 | SHALL |  | [27113](#C_27113) | SBJ |
| templateId | 1..1 | SHALL |  | [21084](#C_21084) |  |
| @root | 1..1 | SHALL |  | [21085](#C_21085) | 2.16.840.1.113883.10.20.5.6.176 |
| participantRole | 1..1 | SHALL |  | [27114](#C_27114) |  |
| @classCode | 0..1 | MAY |  | [27115](#C_27115) | MANU |
| playingEntity | 1..1 | SHALL |  | [27116](#C_27116) |  |
| code | 1..1 | SHALL |  | [27117](#C_27117) | 2.16.840.1.114222.4.11.3360 (NHSNAntimicrobialAgentAURPCode) |

1. SHALL contain exactly one [1..1] @typeCode="SBJ" (CONF:27113).
2. SHALL contain exactly one [1..1] templateId (CONF:21084) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.6.176" (CONF:21085).
3. SHALL contain exactly one [1..1] participantRole (CONF:27114).
   1. This participantRole MAY contain zero or one [0..1] @classCode="MANU" (CONF:27115).
   2. This participantRole SHALL contain exactly one [1..1] playingEntity (CONF:27116).
      1. This playingEntity SHALL contain exactly one [1..1] code, which SHALL be selected from ValueSet [NHSNAntimicrobialAgentAURPCode](#NHSNAntimicrobialAgentAURPCode) 2.16.840.1.114222.4.11.3360 DYNAMIC (CONF:27117).

Table 87: NHSNAntimicrobialAgentAURPCode

|  |  |  |  |
| --- | --- | --- | --- |
| Value Set: NHSNAntimicrobialAgentAURPCode 2.16.840.1.114222.4.11.3360  Code System: RxNorm 2.16.840.1.113883.6.88 or cdcNHSN 2.16.840.1.113883.6.277  Value Set Source: <http://phinvads.cdc.gov> | | | |
| Code | Code System | Code System OID | Print Name |
| 620 | RxNorm | 2.16.840.1.113883.6.88 | Amantadine |
| 641 | RxNorm | 2.16.840.1.113883.6.88 | Amikacin |
| 723 | RxNorm | 2.16.840.1.113883.6.88 | Amoxicillin (only) |
| 19711 | RxNorm | 2.16.840.1.113883.6.88 | Amoxicillin with Clavulanate |
| 732 | RxNorm | 2.16.840.1.113883.6.88 | Amphotericin B |
| 236594 | RxNorm | 2.16.840.1.113883.6.88 | Amphotericin B Liposomal |
| 733 | RxNorm | 2.16.840.1.113883.6.88 | Ampicillin (only) |
| 1009148 | RxNorm | 2.16.840.1.113883.6.88 | Ampicillin with Sulbactam |
| 341018 | RxNorm | 2.16.840.1.113883.6.88 | Anidulafungin |
| 18631 | RxNorm | 2.16.840.1.113883.6.88 | Azithromycin |
| 1272 | RxNorm | 2.16.840.1.113883.6.88 | Aztreonam |
| 140108 | RxNorm | 2.16.840.1.113883.6.88 | Caspofungin |
| 2176 | RxNorm | 2.16.840.1.113883.6.88 | Cefaclor |
| 2177 | RxNorm | 2.16.840.1.113883.6.88 | Cefadroxil |
| 2180 | RxNorm | 2.16.840.1.113883.6.88 | Cefazolin |
| 25037 | RxNorm | 2.16.840.1.113883.6.88 | Cefdinir |
| 83682 | RxNorm | 2.16.840.1.113883.6.88 | Cefditoren |
| 20481 | RxNorm | 2.16.840.1.113883.6.88 | Cefepime |
| 25033 | RxNorm | 2.16.840.1.113883.6.88 | Cefixime |
| 2186 | RxNorm | 2.16.840.1.113883.6.88 | Cefotaxime |
| ... | | | |

Figure 23: Antimicrobial Susceptibility Antibiotic Example

<!-- This participant specifies the antibiotic tested -->

<participant typeCode="SBJ">

<!-- Antimicrobial Susceptibility Antibiotic -->

<templateId root="2.16.840.1.113883.10.20.5.6.176" />

<participantRole classCode="MANU">

<playingEntity>

<code code="21212"

displayName="Clarithromycin"

codeSystemName="RxNorm"

codeSystem="2.16.840.1.113883.6.88"/>

</playingEntity>

</participantRole>

</participant>

Antimicrobial Susceptibility Final Interpretation Result

[observation: identifier oid:2.16.840.1.113883.10.20.5.6.175 (closed)]

Table 88: Antimicrobial Susceptibility Final Interpretation Result Contexts

| Contained By: | Contains: |
| --- | --- |
| [Antimicrobial Susceptibility Tests Organizer](#E_Antimicrobial_Susceptibility_Tests_Or) (required) |  |

This clinical statement represents the final susceptibility result of a cluster of antimicrobial susceptibility tests performed on one pathogen-drug combination. Although several tests performed on one pathogen using the same antimicrobial agent may yield conflicting results, this clinical statement provides the final and definitive susceptibility testing result. That result is recorded in the interpretationCode element.

Table 89: Antimicrobial Susceptibility Final Interpretation Result Constraints Overview

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| XPath | Card. | Verb | Data Type | CONF# | Value |
| observation (identifier: oid:2.16.840.1.113883.10.20.5.6.175) | | | | | |
| @classCode | 1..1 | SHALL |  | [21067](#C_21067) | 2.16.840.1.113883.5.6 (HL7ActClass) = OBS |
| @moodCode | 1..1 | SHALL |  | [21068](#C_21068) | 2.16.840.1.113883.5.1001 (ActMood) = EVN |
| templateId | 1..1 | SHALL |  | [28203](#C_28203) |  |
| @root | 1..1 | SHALL |  | [28204](#C_28204) | 2.16.840.1.113883.10.20.22.4.2 |
| templateId | 1..1 | SHALL |  | [21071](#C_21071) |  |
| @root | 1..1 | SHALL |  | [21072](#C_21072) | 2.16.840.1.113883.10.20.5.6.175 |
| id | 1..1 | SHALL |  | [21069](#C_21069) |  |
| @nullFlavor | 1..1 | SHALL |  | [21070](#C_21070) | NA |
| code | 1..1 | SHALL |  | [21075](#C_21075) |  |
| @code | 1..1 | SHALL |  | [28099](#C_28099) | 365705006 |
| @codeSystem | 1..1 | SHALL |  | [28100](#C_28100) | 2.16.840.1.113883.6.96 (SNOMED CT) = 2.16.840.1.113883.6.96 |
| statusCode | 1..1 | SHALL |  | [21076](#C_21076) |  |
| @code | 1..1 | SHALL |  | [21077](#C_21077) | 2.16.840.1.113883.5.14 (ActStatus) = completed |
| effectiveTime | 1..1 | SHALL |  | [21078](#C_21078) |  |
| @nullFlavor | 1..1 | SHALL |  | [22630](#C_22630) | NA |
| value | 1..1 | SHALL | CD | [21079](#C_21079) | 2.16.840.1.113883.13.13 (NHSNDrugSusceptibilityFindingCode) |

1. Conforms to Result Observation template (identifier: oid:2.16.840.1.113883.10.20.22.4.2).
2. SHALL contain exactly one [1..1] @classCode="OBS" (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6) (CONF:21067).
3. SHALL contain exactly one [1..1] @moodCode="EVN" (CodeSystem: ActMood 2.16.840.1.113883.5.1001) (CONF:21068).
4. SHALL contain exactly one [1..1] templateId (CONF:28203) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.4.2" (CONF:28204).
5. SHALL contain exactly one [1..1] templateId (CONF:21071) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.6.175" (CONF:21072).
6. SHALL contain exactly one [1..1] id (CONF:21069).
   1. This id SHALL contain exactly one [1..1] @nullFlavor="NA" (CONF:21070).
7. SHALL contain exactly one [1..1] code (CONF:21075).
   1. This code SHALL contain exactly one [1..1] @code="365705006" Final Interpretation Result (CONF:28099).
   2. This code SHALL contain exactly one [1..1] @codeSystem="2.16.840.1.113883.6.96" (CodeSystem: SNOMED CT 2.16.840.1.113883.6.96) (CONF:28100).
8. SHALL contain exactly one [1..1] statusCode (CONF:21076).
   1. This statusCode SHALL contain exactly one [1..1] @code="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14) (CONF:21077).
9. SHALL contain exactly one [1..1] effectiveTime (CONF:21078).
   1. This effectiveTime SHALL contain exactly one [1..1] @nullFlavor="NA" (CONF:22630).
10. SHALL contain exactly one [1..1] value with @xsi:type="CD", where the code SHALL be selected from ValueSet [NHSNDrugSusceptibilityFindingCode](#NHSNDrugSusceptibilityFindingCode) 2.16.840.1.113883.13.13 (CONF:21079).

Table 90: NHSNDrugSusceptibilityFindingCode

|  |  |  |  |
| --- | --- | --- | --- |
| Value Set: NHSNDrugSusceptibilityFindingCode 2.16.840.1.113883.13.13  Code System: HL7ObservationInterpretation 2.16.840.1.113883.5.83 | | | |
| Code | Code System | Code System OID | Print Name |
| I | HL7ObservationInterpretation | 2.16.840.1.113883.5.83 | Intermediate |
| R | HL7ObservationInterpretation | 2.16.840.1.113883.5.83 | Resistant |
| S | HL7ObservationInterpretation | 2.16.840.1.113883.5.83 | Susceptible |
| NS | HL7ObservationInterpretation | 2.16.840.1.113883.5.83 | Non-Susceptible |
| S-DD | HL7ObservationInterpretation | 2.16.840.1.113883.5.83 | Susceptible-dose dependant |

Figure 24: Antimicrobial Susceptibility Final Interpretation Result Example

<!-- This observation specifies the Final Interpretation Result -->

<observation classCode="OBS" moodCode="EVN">

<!-- Antimicrobial Susceptibility Final Interpretation Result -->

<templateId root="2.16.840.1.113883.10.20.5.6.175" />

<!-- Consolidated CDA Result Observation template -->

<templateId root="2.16.840.1.113883.10.20.22.4.2" />

<id nullFlavor="NA" />

<code code="365705006"

displayName="Final Interpretation Result"

codeSystem="2.16.840.1.113883.6.96"

codeSystemName="SNOMED CT" />

<statusCode code="completed" />

<effectiveTime nullFlavor="NA" />

<value xsi:type="CD" codeSystem="2.16.840.1.113883.5.83"

codeSystemName="HL7 Observation Interpretation"

code="R"

displayName="Resistant" />

</observation>

Antimicrobial Susceptibility Isolate Participant

[participant: identifier oid:2.16.840.1.113883.10.20.5.6.202 (closed)]

Table 91: Antimicrobial Susceptibility Isolate Participant Contexts

| Contained By: | Contains: |
| --- | --- |
| [Isolate Susceptibility Tests Organizer](#Isolate_Susceptibility_Tests_Organizer_) (required) |  |

This template identifies an isolate for the purpose of antimicrobial susceptibility testing.

Table 92: Antimicrobial Susceptibility Isolate Participant Constraints Overview

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| XPath | Card. | Verb | Data Type | CONF# | Value |
| participant (identifier: oid:2.16.840.1.113883.10.20.5.6.202) | | | | | |
| @typeCode | 1..1 | SHALL |  | [27150](#C_27150) | SBJ |
| templateId | 1..1 | SHALL |  | [27137](#C_27137) |  |
| @root | 1..1 | SHALL |  | [27138](#C_27138) | 2.16.840.1.113883.10.20.5.6.202 |
| participantRole | 1..1 | SHALL |  | [27151](#C_27151) |  |
| @classCode | 1..1 | SHALL |  | [27152](#C_27152) | ISLT |
| id | 1..\* | SHALL |  | [27153](#C_27153) |  |
| playingEntity | 1..1 | SHALL |  | [27154](#C_27154) |  |
| code | 1..1 | SHALL |  | [27155](#C_27155) | 2.16.840.1.113883.13.16 (NHSNPathogenCode) |

1. SHALL contain exactly one [1..1] @typeCode="SBJ" (CONF:27150).
2. SHALL contain exactly one [1..1] templateId (CONF:27137) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.6.202" (CONF:27138).
3. SHALL contain exactly one [1..1] participantRole (CONF:27151).
   1. This participantRole SHALL contain exactly one [1..1] @classCode="ISLT" (CONF:27152).

This is the unique isolate identifier

* 1. This participantRole SHALL contain at least one [1..\*] id (CONF:27153).
  2. This participantRole SHALL contain exactly one [1..1] playingEntity (CONF:27154).
     1. This playingEntity SHALL contain exactly one [1..1] code, which SHALL be selected from ValueSet [NHSNPathogenCode](#NHSNPathogenCode) 2.16.840.1.113883.13.16 DYNAMIC (CONF:27155).

Table 93: NHSNPathogenCode

|  |  |  |  |
| --- | --- | --- | --- |
| Value Set: NHSNPathogenCode 2.16.840.1.113883.13.16  Code System: SNOMED CT 2.16.840.1.113883.6.96 or cdcNHSN 2.16.840.1.113883.6.277 | | | |
| Code | Code System | Code System OID | Print Name |
| 113713009 | SNOMED CT | 2.16.840.1.113883.6.96 | Abiotrophia adiacens - GRADJ |
| 372391001 | SNOMED CT | 2.16.840.1.113883.6.96 | Abiotrophia spp. - ABISP |
| 50875003 | SNOMED CT | 2.16.840.1.113883.6.96 | Acanthamoeba - ACANT |
| 413423003 | SNOMED CT | 2.16.840.1.113883.6.96 | Achromobacter spp. - ACHSP |
| 413424009 | SNOMED CT | 2.16.840.1.113883.6.96 | Achromobacter xylosoxidans - ALCXYL |
| 423897003 | SNOMED CT | 2.16.840.1.113883.6.96 | Achromobacter xylosoxidans xylosoxidans - ACHXYL |
| 59995003 | SNOMED CT | 2.16.840.1.113883.6.96 | Achromobacter, group Vd biotype 1 - ACHVD1 |
| 55156008 | SNOMED CT | 2.16.840.1.113883.6.96 | Achromobacter, group Vd biotype 2 - ACHVD2 |
| 63005002 | SNOMED CT | 2.16.840.1.113883.6.96 | Acidaminococcus fermentans - ACIFE |
| 131202007 | SNOMED CT | 2.16.840.1.113883.6.96 | Acidaminococcus spp. - ACISP |
| 113685003 | SNOMED CT | 2.16.840.1.113883.6.96 | Acidovorax delafieldii - ACDEL |
| 115153000 | SNOMED CT | 2.16.840.1.113883.6.96 | Acidovorax spp. - ACIDSP |
| 82550008 | SNOMED CT | 2.16.840.1.113883.6.96 | Acinetobacter anitratus - ACICBA |
| 91288006 | SNOMED CT | 2.16.840.1.113883.6.96 | Acinetobacter baumannii - ACBA |
| 83088009 | SNOMED CT | 2.16.840.1.113883.6.96 | Acinetobacter calcoaceticus ss. lwoffii - ACLW |
| 113376007 | SNOMED CT | 2.16.840.1.113883.6.96 | Acinetobacter calcoaceticus-baumannii complex - ACCA |
| 113377003 | SNOMED CT | 2.16.840.1.113883.6.96 | Acinetobacter genospecies 3 - ACIGEN |
| 77045006 | SNOMED CT | 2.16.840.1.113883.6.96 | Acinetobacter hemolyticus - ACHA |
| 252000 | SNOMED CT | 2.16.840.1.113883.6.96 | Acinetobacter johnsonii - ACJH |
| 13879009 | SNOMED CT | 2.16.840.1.113883.6.96 | Acinetobacter junii - ACJU |
| ... | | | |

Figure 25: Antimicrobial Susceptibility Isolate Participant Example

<participant typeCode="SBJ">

<!-- Antimicrobial Susceptibility Isolate Participant template -->

<templateId root="2.16.840.1.113883.10.20.5.6.202"/>

<participantRole classCode="ISLT">

<!-- Isolate identifier - unique for each isolate in that year –->

<id root="8d7ebcf7-528e-48e8-9e04-350b11b591d1" extension="125698523"/>

<playingEntity>

<code code="3092008"

displayName="Staphylococcus aureus"

codeSystem="2.16.840.1.113883.6.96"

codeSystemName="SNOMED CT"/>

</playingEntity>

</participantRole>

</participant>

Antimicrobial Susceptibility Result Observation

[observation: identifier oid:2.16.840.1.113883.10.20.5.6.186 (closed)]

Table 94: Antimicrobial Susceptibility Result Observation Contexts

| Contained By: | Contains: |
| --- | --- |
| [Antimicrobial Susceptibility Result Organizer](#Antimicrobial_Susceptibility_Result_Org) (required) |  |

This clinical statement represents the result of one discrete susceptibility test. The type of test is recorded in the code element. The susceptibility result of that test is recorded in the interpretationCode element. The numeric result of that test is recorded in the value element as an inequality. The numeric component is recorded in the value/.../@value attribute. The unit of measure is recorded in the value/.../@unit attribute. And the inequality, in the value/low and value/high and value/center elements. For example:

Greater than 0.5 mg/ul

    <value>

        <low value="0.5" unit="mg/ul"/>

    </value>

Greater than or equal to 0.9 mg/ul

    <value>

        <low value="0.9" unit="mg/ul" inclusive="true"/>

    </value>

Less than 0.7 mg/ul

    <value>

        <high value="0.7" unit="mg/ul"/>

    </value>

Less than or equal to 0.4 mg/ul

    <value>

        <high value="0.4" unit="mg/ul" inclusive="true"/>

    </value>

Exactly equal to 0.2 mg/ul

    <value>

        <center value="0.2" unit="mg/ul"/>

    </value>

Table 95: Antimicrobial Susceptibility Result Observation Constraints Overview

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| XPath | Card. | Verb | Data Type | CONF# | Value |
| observation (identifier: oid:2.16.840.1.113883.10.20.5.6.186) | | | | | |
| @classCode | 1..1 | SHALL |  | [22632](#C_22632) | 2.16.840.1.113883.5.6 (HL7ActClass) = OBS |
| @moodCode | 1..1 | SHALL |  | [22633](#C_22633) | 2.16.840.1.113883.5.1001 (ActMood) = EVN |
| @negationInd | 1..1 | SHALL |  | [22699](#C_22699) |  |
| templateId | 1..1 | SHALL |  | [28205](#C_28205) |  |
| @root | 1..1 | SHALL |  | [28206](#C_28206) | 2.16.840.1.113883.10.20.22.4.2 |
| templateId | 1..1 | SHALL |  | [22634](#C_22634) |  |
| @root | 1..1 | SHALL |  | [22635](#C_22635) | 2.16.840.1.113883.10.20.5.6.186 |
| id | 1..1 | SHALL |  | [22636](#C_22636) |  |
| @nullFlavor | 1..1 | SHALL |  | [22637](#C_22637) | NA |
| code | 1..1 | SHALL |  | [22638](#C_22638) | 2.16.840.1.114222.4.11.7161 (NHSNAntibioticSuscTest) |
| statusCode | 1..1 | SHALL |  | [22639](#C_22639) |  |
| @code | 1..1 | SHALL |  | [22640](#C_22640) | completed |
| effectiveTime | 1..1 | SHALL |  | [22641](#C_22641) |  |
| @nullFlavor | 1..1 | SHALL |  | [22642](#C_22642) | NA |
| value | 1..1 | SHALL | IVL\_PQ | [22643](#C_22643) |  |
| low | 0..1 | MAY |  | [22644](#C_22644) |  |
| @value | 0..1 | MAY |  | [23095](#C_23095) |  |
| @unit | 0..1 | MAY |  | [23096](#C_23096) |  |
| @inclusive | 0..1 | MAY | BL | [22645](#C_22645) |  |
| high | 0..1 | MAY |  | [22646](#C_22646) |  |
| @value | 0..1 | MAY |  | [23097](#C_23097) |  |
| @unit | 0..1 | MAY |  | [23098](#C_23098) |  |
| @inclusive | 0..1 | MAY |  | [22647](#C_22647) |  |
| center | 0..1 | MAY |  | [22648](#C_22648) |  |
| @value | 0..1 | MAY |  | [23099](#C_23099) |  |
| @unit | 0..1 | MAY |  | [23100](#C_23100) |  |
| @nullFlavor | 0..1 | MAY |  | [23366](#C_23366) |  |
| interpretationCode | 1..1 | SHALL |  | [23101](#C_23101) | 2.16.840.1.113883.13.13 (NHSNDrugSusceptibilityFindingCode) |

1. Conforms to Result Observation template (identifier: oid:2.16.840.1.113883.10.20.22.4.2).
2. SHALL contain exactly one [1..1] @classCode="OBS" (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6) (CONF:22632).
3. SHALL contain exactly one [1..1] @moodCode="EVN" (CodeSystem: ActMood 2.16.840.1.113883.5.1001) (CONF:22633).
4. SHALL contain exactly one [1..1] @negationInd (CONF:22699).
5. SHALL contain exactly one [1..1] templateId (CONF:28205) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.4.2" (CONF:28206).
6. SHALL contain exactly one [1..1] templateId (CONF:22634) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.6.186" (CONF:22635).
7. SHALL contain exactly one [1..1] id (CONF:22636).
   1. This id SHALL contain exactly one [1..1] @nullFlavor="NA" (CONF:22637).
8. SHALL contain exactly one [1..1] code, which SHOULD be selected from ValueSet [NHSNAntibioticSuscTest](#NHSNAntibioticSuscTest) 2.16.840.1.114222.4.11.7161 STATIC (CONF:22638).
9. SHALL contain exactly one [1..1] statusCode (CONF:22639).
   1. This statusCode SHALL contain exactly one [1..1] @code="completed" (CONF:22640).
10. SHALL contain exactly one [1..1] effectiveTime (CONF:22641).
    1. This effectiveTime SHALL contain exactly one [1..1] @nullFlavor="NA" (CONF:22642).
11. SHALL contain exactly one [1..1] value with @xsi:type="IVL\_PQ" (CONF:22643).
    1. This value MAY contain zero or one [0..1] low (CONF:22644).
       1. The low, if present, MAY contain zero or one [0..1] @value (CONF:23095).
       2. The low, if present, MAY contain zero or one [0..1] @unit (CONF:23096).
       3. The low, if present, MAY contain zero or one [0..1] @inclusive (CONF:22645).
    2. This value MAY contain zero or one [0..1] high (CONF:22646).
       1. The high, if present, MAY contain zero or one [0..1] @value (CONF:23097).
       2. The high, if present, MAY contain zero or one [0..1] @unit (CONF:23098).
       3. The high, if present, MAY contain zero or one [0..1] @inclusive (CONF:22647).
    3. This value MAY contain zero or one [0..1] center (CONF:22648).
       1. The center, if present, MAY contain zero or one [0..1] @value (CONF:23099).
       2. The center, if present, MAY contain zero or one [0..1] @unit (CONF:23100).
    4. This value MAY contain zero or one [0..1] @nullFlavor (CONF:23366).
12. SHALL contain exactly one [1..1] interpretationCode, which SHOULD be selected from ValueSet [NHSNDrugSusceptibilityFindingCode](#NHSNDrugSusceptibilityFindingCode) 2.16.840.1.113883.13.13 (CONF:23101).

Table 96: NHSNAntibioticSuscTest

|  |  |  |  |
| --- | --- | --- | --- |
| Value Set: NHSNAntibioticSuscTest 2.16.840.1.114222.4.11.7161  Code System: LOINC 2.16.840.1.113883.6.1 | | | |
| Code | Code System | Code System OID | Print Name |
| 45187-2 | LOINC | 2.16.840.1.113883.6.1 | Other Antibiotic [Susceptibility] by Disk diffusion (KB) |
| 21070-8 | LOINC | 2.16.840.1.113883.6.1 | Other Antibiotic [Susceptibility] by Minimum inhibitory concentration (MIC) |
| 55617-5 | LOINC | 2.16.840.1.113883.6.1 | Other Antibiotic [Susceptibility] by Gradient strip (E-test) |

Figure 26: Antimicrobial Susceptibility Result Example—test done

<component>

<observation classCode="OBS" moodCode="EVN" negationInd="false">

<!-- Antimicrobial Susceptibility Result Observation -->

<templateId root="2.16.840.1.113883.10.20.5.6.186"/>

<!-- Consolidated CDA Result Observation template -->

<templateId root="2.16.840.1.113883.10.20.22.4.2"/>

<id nullFlavor="NA"/>

<code code="45187-2"

displayName="Other Antibiotic [Susceptibility] by Disk diffusion (KB)"

codeSystem="2.16.840.1.113883.6.1"

codeSystemName="LOINC"/>

<statusCode code="completed"/>

<effectiveTime nullFlavor="NA"/>

<value xsi:type="IVL\_PQ">

<high value="1" unit="mm"/>

</value>

<interpretationCode codeSystem="2.16.840.1.113883.5.83"

codeSystemName="HL7 Observation Interpretation"

code="R"

displayName="Resistant"/>

</observation>

</component>

Figure 27: Antimicrobial Susceptibility Result Example—test not done

<component>

<!-- This observation specifies that the susceptibility test was not done.

(NegationInd = true) -->

<observation classCode="OBS" moodCode="EVN" negationInd="true">

<!-- Antimicrobial Susceptibility Result Observation -->

<templateId root="2.16.840.1.113883.10.20.5.6.186"/>

<!-- Consolidated CDA Result Observation template -->

<templateId root="2.16.840.1.113883.10.20.22.4.2"/>

<id nullFlavor="NA"/>

<code code="55617-5"

displayName="Other Antibiotic [Susceptibility] by Gradient strip (E-test)"

codeSystem="2.16.840.1.113883.6.1"

codeSystemName="LOINC"/>

<statusCode code="completed"/>

<effectiveTime nullFlavor="NA"/>

<value xsi:type="IVL\_PQ" nullFlavor="NA"/>

<interpretationCode nullFlavor="NA"/>

</observation>

</component>

Antimicrobial Susceptibility Result Organizer

[organizer: identifier oid:2.16.840.1.113883.10.20.5.6.200 (closed)]

Table 97: Antimicrobial Susceptibility Result Organizer Contexts

| Contained By: | Contains: |
| --- | --- |
| [Antimicrobial Susceptibility Tests Organizer](#E_Antimicrobial_Susceptibility_Tests_Or) (required) | [Antimicrobial Susceptibility Result Observation](#E_Antimicrobial_Susceptibility_Result_O) |

This entry forms the grouper for a battery of antimicrobial susceptibility tests.

Table 98: Antimicrobial Susceptibility Result Organizer Constraints Overview

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| XPath | Card. | Verb | Data Type | CONF# | Value |
| organizer (identifier: oid:2.16.840.1.113883.10.20.5.6.200) | | | | | |
| @classCode | 1..1 | SHALL |  | [27103](#C_27103) | 2.16.840.1.113883.5.6 (HL7ActClass) = BATTERY |
| @moodCode | 1..1 | SHALL |  | [27104](#C_27104) | 2.16.840.1.113883.5.1001 (ActMood) = EVN |
| templateId | 1..1 | SHALL |  | [28207](#C_28207) |  |
| @root | 1..1 | SHALL |  | [28208](#C_28208) | 2.16.840.1.113883.10.20.22.4.1 |
| templateId | 1..1 | SHALL |  | [27105](#C_27105) |  |
| @root | 1..1 | SHALL |  | [27106](#C_27106) | 2.16.840.1.113883.10.20.5.6.200 |
| id | 1..\* | SHALL |  | [27107](#C_27107) |  |
| code | 1..1 | SHALL |  | [27108](#C_27108) |  |
| @code | 1..1 | SHALL |  | [28101](#C_28101) | 18725-2 |
| @codeSystem | 1..1 | SHALL |  | [28102](#C_28102) | 2.16.840.1.113883.6.1 (LOINC) = 2.16.840.1.113883.6.1 |
| statusCode | 1..1 | SHALL |  | [27109](#C_27109) |  |
| @code | 1..1 | SHALL |  | [27110](#C_27110) | 2.16.840.1.113883.5.14 (ActStatus) = completed |
| component | 1..\* | SHALL |  | [27111](#C_27111) |  |
| observation | 1..1 | SHALL |  | [27112](#C_27112) | [Antimicrobial Susceptibility Result Observation (identifier: oid:2.16.840.1.113883.10.20.5.6.186](#E_Antimicrobial_Susceptibility_Result_O) |

1. Conforms to Result Organizer template (identifier: oid:2.16.840.1.113883.10.20.22.4.1).
2. SHALL contain exactly one [1..1] @classCode="BATTERY" (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6) (CONF:27103).
3. SHALL contain exactly one [1..1] @moodCode="EVN" (CodeSystem: ActMood 2.16.840.1.113883.5.1001) (CONF:27104).
4. SHALL contain exactly one [1..1] templateId (CONF:28207) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.4.1" (CONF:28208).
5. SHALL contain exactly one [1..1] templateId (CONF:27105) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.6.200" (CONF:27106).
6. SHALL contain at least one [1..\*] id (CONF:27107).
7. SHALL contain exactly one [1..1] code (CONF:27108).
   1. This code SHALL contain exactly one [1..1] @code="18725-2" Microbiology Studies (CONF:28101).
   2. This code SHALL contain exactly one [1..1] @codeSystem="2.16.840.1.113883.6.1" (CodeSystem: LOINC 2.16.840.1.113883.6.1) (CONF:28102).
8. SHALL contain exactly one [1..1] statusCode (CONF:27109).
   1. This statusCode SHALL contain exactly one [1..1] @code="completed" (CodeSystem: ActStatus 2.16.840.1.113883.5.14) (CONF:27110).
9. SHALL contain at least one [1..\*] component (CONF:27111).
   1. Such components SHALL contain exactly one [1..1] [Antimicrobial Susceptibility Result Observation](#E_Antimicrobial_Susceptibility_Result_O) (identifier: oid:2.16.840.1.113883.10.20.5.6.186) (CONF:27112).

Figure 28: Antimicrobial Susceptibility Result Organizer Example

<organizer classCode="BATTERY" moodCode="EVN">

<!-- C-CDA Result Organizer template-->

<templateId root="2.16.840.1.113883.10.20.22.4.1" />

<!-- Antimicrobial Susceptibility Result Organizer -->

<templateId root="2.16.840.1.113883.10.20.5.6.200" />

<id nullFlavor="NI" />

<code code="18725-2"

codeSystem="2.16.840.1.113883.6.1"

codeSystemName="LOINC"

displayName="Microbiology Studies" />

<statusCode code="completed" />

<component>

<observation classCode="OBS" moodCode="EVN" negationInd="false">

<!-- Antimicrobial Susceptibility Result Observation -->

<templateId root="2.16.840.1.113883.10.20.5.6.186"/>

...

</observation>

</component>

</organizer>

Antimicrobial Susceptibility Tests Organizer

[organizer: identifier oid:2.16.840.1.113883.10.20.5.6.177 (closed)]

Table 99: Antimicrobial Susceptibility Tests Organizer Contexts

| Contained By: | Contains: |
| --- | --- |
| [Isolate Susceptibility Tests Organizer](#Isolate_Susceptibility_Tests_Organizer_) (required) | [Antimicrobial Susceptibility Antibiotic](#E_Antimicrobial_Susceptibility_Antibiot)  [Antimicrobial Susceptibility Final Interpretation Result](#E_Antimicrobial_Susceptibility_Final_In)  [Antimicrobial Susceptibility Result Organizer](#Antimicrobial_Susceptibility_Result_Org) |

This clinical statement identifies an antimicrobial agent and a set of antimicrobial susceptibility tests performed on a pathogen that generates a final antimicrobial susceptibility result with regard to that pathogen-agent combination.

Table 100: Antimicrobial Susceptibility Tests Organizer Constraints Overview

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| XPath | Card. | Verb | Data Type | CONF# | Value |
| organizer (identifier: oid:2.16.840.1.113883.10.20.5.6.177) | | | | | |
| @classCode | 1..1 | SHALL |  | [21091](#C_21091) | 2.16.840.1.113883.5.6 (HL7ActClass) = CLUSTER |
| @moodCode | 1..1 | SHALL |  | [21092](#C_21092) | 2.16.840.1.113883.5.1001 (ActMood) = EVN |
| templateId | 1..1 | SHALL |  | [21093](#C_21093) |  |
| @root | 1..1 | SHALL |  | [21094](#C_21094) | 2.16.840.1.113883.10.20.5.6.177 |
| id | 1..\* | SHALL |  | [21097](#C_21097) |  |
| @nullFlavor | 1..1 | SHALL |  | [22723](#C_22723) | NA |
| code | 1..1 | SHALL |  | [21098](#C_21098) |  |
| @code | 1..1 | SHALL |  | [21099](#C_21099) | 2.16.840.1.113883.6.1 (LOINC) = 18725-2 |
| statusCode | 1..1 | SHALL |  | [21100](#C_21100) |  |
| @code | 1..1 | SHALL |  | [21101](#C_21101) | 2.16.840.1.113883.5.14 (ActStatus) = completed |
| participant | 1..1 | SHALL |  | [27119](#C_27119) | [Antimicrobial Susceptibility Antibiotic (identifier: oid:2.16.840.1.113883.10.20.5.6.176](#E_Antimicrobial_Susceptibility_Antibiot) |
| component | 1..1 | SHALL |  | [21104](#C_21104) |  |
| organizer | 1..1 | SHALL |  | [27178](#C_27178) | [Antimicrobial Susceptibility Result Organizer (identifier: oid:2.16.840.1.113883.10.20.5.6.200](#Antimicrobial_Susceptibility_Result_Org) |
| component | 1..1 | SHALL |  | [21106](#C_21106) |  |
| observation | 1..1 | SHALL |  | [22712](#C_22712) | [Antimicrobial Susceptibility Final Interpretation Result (identifier: oid:2.16.840.1.113883.10.20.5.6.175](#E_Antimicrobial_Susceptibility_Final_In) |

1. Conforms to Result Organizer template (identifier: oid:2.16.840.1.113883.10.20.22.4.1).
2. SHALL contain exactly one [1..1] @classCode="CLUSTER" (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6) (CONF:21091).
3. SHALL contain exactly one [1..1] @moodCode="EVN" (CodeSystem: ActMood 2.16.840.1.113883.5.1001) (CONF:21092).
4. SHALL contain exactly one [1..1] templateId (CONF:21093) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.6.177" (CONF:21094).
5. SHALL contain at least one [1..\*] id (CONF:21097).
   1. Such ids SHALL contain exactly one [1..1] @nullFlavor="NA" (CONF:22723).
6. SHALL contain exactly one [1..1] code (CONF:21098).
   1. This code SHALL contain exactly one [1..1] @code="18725-2" Microbiology studies (CodeSystem: LOINC 2.16.840.1.113883.6.1) (CONF:21099).
7. SHALL contain exactly one [1..1] statusCode (CONF:21100).
   1. This statusCode SHALL contain exactly one [1..1] @code="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14) (CONF:21101).
8. SHALL contain exactly one [1..1] [Antimicrobial Susceptibility Antibiotic](#E_Antimicrobial_Susceptibility_Antibiot) (identifier: oid:2.16.840.1.113883.10.20.5.6.176) (CONF:27119).
9. SHALL contain exactly one [1..1] component (CONF:21104) such that it
   1. SHALL contain exactly one [1..1] [Antimicrobial Susceptibility Result Organizer](#Antimicrobial_Susceptibility_Result_Org) (identifier: oid:2.16.840.1.113883.10.20.5.6.200) (CONF:27178).
10. SHALL contain exactly one [1..1] component (CONF:21106) such that it
    1. SHALL contain exactly one [1..1] [Antimicrobial Susceptibility Final Interpretation Result](#E_Antimicrobial_Susceptibility_Final_In) (identifier: oid:2.16.840.1.113883.10.20.5.6.175) (CONF:22712).

Figure 29: Antimicrobial Susceptibility Tests Organizer Example

<organizer classCode="CLUSTER" moodCode="EVN">

<!-- Conforms to Consolidated CDA Result Organizer template-->

<templateId root=”2.16.840.1.113883.10.20.22.4.1” />

<!-- Antimicrobial Susceptibility Tests Organizer -->

<templateId root="2.16.840.1.113883.10.20.5.6.177" />

<id nullFlavor="NI" />

<code code="18725-2"

codeSystem="2.16.840.1.113883.6.1"

codeSystemName="LOINC"

displayName="Microbiology Studies" />

<statusCode code="completed" />

<participant typeCode="SBJ">

<!-- Antimicrobial Susceptibility Antibiotic -->

<templateId root="2.16.840.1.113883.10.20.5.6.176"/>

...

</participant>

<component>

<organizer classCode="BATTERY" moodCode="EVN">

<!-- Antimicrobial Susceptibility Result Organizer -->

<templateId root="2.16.840.1.113883.10.20.5.6.200"/>

...

</organizer>

</component>

<component>

<!-- This observation specifies the Final Interpretation result. -->

<observation classCode="OBS" moodCode="EVN">

<!-- Antimicrobial Susceptibility Final Interpretation Result -->

<templateId root="2.16.840.1.113883.10.20.5.6.175"/>

...

</observation>

</component>

</organizer>

ARO Staph Aureus Specific Tests Organizer

[organizer: identifier oid:2.16.840.1.113883.10.20.5.6.190 (closed)]

Table 101: ARO Staph Aureus Specific Tests Organizer Contexts

| Contained By: | Contains: |
| --- | --- |
| [Isolate Susceptibility Tests Organizer](#Isolate_Susceptibility_Tests_Organizer_) (optional) | [ARO Staph Aureus Specific Tests Result Observation](#E_ARO_Staph_Aureus_Specific_Tests_Resul) |

This clinical statement represents the set of specific tests conducted on an isolate of Staphylococcus aureus when performing antimicrobial susceptibility testing.

Table 102: ARO Staph Aureus Specific Tests Organizer Constraints Overview

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| XPath | Card. | Verb | Data Type | CONF# | Value |
| organizer (identifier: oid:2.16.840.1.113883.10.20.5.6.190) | | | | | |
| @classCode | 1..1 | SHALL |  | [22700](#C_22700) | 2.16.840.1.113883.5.6 (HL7ActClass) = CLUSTER |
| @moodCode | 1..1 | SHALL |  | [22701](#C_22701) | 2.16.840.1.113883.5.1001 (ActMood) = EVN |
| templateId | 1..1 | SHALL |  | [28209](#C_28209) |  |
| @root | 1..1 | SHALL |  | [28210](#C_28210) | 2.16.840.1.113883.10.20.22.4.1 |
| templateId | 1..1 | SHALL |  | [22702](#C_22702) |  |
| @root | 1..1 | SHALL |  | [22703](#C_22703) | 2.16.840.1.113883.10.20.5.6.190 |
| id | 1..1 | SHALL |  | [22704](#C_22704) |  |
| @nullFlavor | 1..1 | SHALL |  | [23365](#C_23365) | NA |
| code | 1..1 | SHALL |  | [22705](#C_22705) |  |
| @code | 1..1 | SHALL |  | [22706](#C_22706) | 2.16.840.1.113883.6.1 (LOINC) = 18725-2 |
| statusCode | 1..1 | SHALL |  | [22707](#C_22707) |  |
| @code | 1..1 | SHALL |  | [22708](#C_22708) | 2.16.840.1.113883.5.14 (ActStatus) = completed |
| component | 1..\* | SHALL |  | [22709](#C_22709) |  |
| observation | 1..1 | SHALL |  | [22710](#C_22710) | [ARO Staph Aureus Specific Tests Result Observation (identifier: oid:2.16.840.1.113883.10.20.5.6.189](#E_ARO_Staph_Aureus_Specific_Tests_Resul) |

1. Conforms to Result Organizer template (identifier: oid:2.16.840.1.113883.10.20.22.4.1).
2. SHALL contain exactly one [1..1] @classCode="CLUSTER" (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6) (CONF:22700).
3. SHALL contain exactly one [1..1] @moodCode="EVN" (CodeSystem: ActMood 2.16.840.1.113883.5.1001) (CONF:22701).
4. SHALL contain exactly one [1..1] templateId (CONF:28209) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.4.1" (CONF:28210).
5. SHALL contain exactly one [1..1] templateId (CONF:22702) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.6.190" (CONF:22703).
6. SHALL contain exactly one [1..1] id (CONF:22704).
   1. This id SHALL contain exactly one [1..1] @nullFlavor="NA" (CONF:23365).
7. SHALL contain exactly one [1..1] code (CONF:22705).
   1. This code SHALL contain exactly one [1..1] @code="18725-2" Microbiology studies (CodeSystem: LOINC 2.16.840.1.113883.6.1) (CONF:22706).
8. SHALL contain exactly one [1..1] statusCode (CONF:22707).
   1. This statusCode SHALL contain exactly one [1..1] @code="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14) (CONF:22708).
9. SHALL contain at least one [1..\*] component (CONF:22709) such that it
   1. SHALL contain exactly one [1..1] [ARO Staph Aureus Specific Tests Result Observation](#E_ARO_Staph_Aureus_Specific_Tests_Resul) (identifier: oid:2.16.840.1.113883.10.20.5.6.189) (CONF:22710).

Figure 30: ARO Staph Aureus Specific Tests Organizer Example

<organizer classCode="CLUSTER" moodCode="EVN">

<!-- ARO Staph Aureus Specific Tests Organizer -->

<templateId root="2.16.840.1.113883.10.20.5.6.190" />

<!-- Conforms to Consolidated CDA Result Organizer template -->

<templateId root="2.16.840.1.113883.10.20.22.4.1" />

<id nullFlavor="NA" />

<code code="18725-2"

codeSystem="2.16.840.1.113883.6.1"

codeSystemName="LOINC"

displayName="Microbiology studies" />

<statusCode code="completed" />

<component>

<observation classCode="OBS" moodCode="EVN">

<!-- ARO Staph Aureus Specific Tests Result Observation -->

<templateId root="2.16.840.1.113883.10.20.5.6.189" />

<!-- Conforms to Consolidated CDA Result Observation template -->

<templateId root="2.16.840.1.113883.10.20.22.4.2" />

...

</observation>

</component>

...

</organizer>

ARO Staph Aureus Specific Tests Result Observation

[observation: identifier oid:2.16.840.1.113883.10.20.5.6.189 (closed)]

Table 103: ARO Staph Aureus Specific Tests Result Observation Contexts

| Contained By: | Contains: |
| --- | --- |
| [ARO Staph Aureus Specific Tests Organizer](#E_ARO_Staph_Aureus_Specific_Tests_Organ) (required) |  |

This clinical statement represents the results of a Staphylococcus aureus-specific test when performing antimicrobial susceptibility testing. The type of test is recorded in the code element whereas the results of the test are recorded in the value element.

Table 104: ARO Staph Aureus Specific Tests Result Observation Constraints Overview

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| XPath | Card. | Verb | Data Type | CONF# | Value |
| observation (identifier: oid:2.16.840.1.113883.10.20.5.6.189) | | | | | |
| @classCode | 1..1 | SHALL |  | [22687](#C_22687) | 2.16.840.1.113883.5.6 (HL7ActClass) = OBS |
| @moodCode | 1..1 | SHALL |  | [22688](#C_22688) | 2.16.840.1.113883.5.1001 (ActMood) = EVN |
| templateId | 1..1 | SHALL |  | [28211](#C_28211) |  |
| @root | 1..1 | SHALL |  | [28212](#C_28212) | 2.16.840.1.113883.10.20.22.4.2 |
| templateId | 1..1 | SHALL |  | [22689](#C_22689) |  |
| @root | 1..1 | SHALL |  | [22690](#C_22690) | 2.16.840.1.113883.10.20.5.6.189 |
| id | 1..1 | SHALL |  | [22691](#C_22691) |  |
| @nullFlavor | 1..1 | SHALL |  | [22692](#C_22692) | NA |
| code | 1..1 | SHALL |  | [22693](#C_22693) | 2.16.840.1.114222.4.11.7160 (NHSNStaphAureusSpecificTest) |
| statusCode | 1..1 | SHALL |  | [22694](#C_22694) |  |
| @code | 1..1 | SHALL |  | [22695](#C_22695) | completed |
| effectiveTime | 1..1 | SHALL |  | [22696](#C_22696) |  |
| @nullFlavor | 1..1 | SHALL |  | [22697](#C_22697) | NA |
| value | 1..1 | SHALL |  | [22698](#C_22698) |  |

1. Conforms to Result Observation template (identifier: oid:2.16.840.1.113883.10.20.22.4.2).
2. SHALL contain exactly one [1..1] @classCode="OBS" (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6) (CONF:22687).
3. SHALL contain exactly one [1..1] @moodCode="EVN" (CodeSystem: ActMood 2.16.840.1.113883.5.1001) (CONF:22688).
4. SHALL contain exactly one [1..1] templateId (CONF:28211) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.4.2" (CONF:28212).
5. SHALL contain exactly one [1..1] templateId (CONF:22689) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.6.189" (CONF:22690).
6. SHALL contain exactly one [1..1] id (CONF:22691).
   1. This id SHALL contain exactly one [1..1] @nullFlavor="NA" (CONF:22692).
7. SHALL contain exactly one [1..1] code, which SHALL be selected from ValueSet [NHSNStaphAureusSpecificTest](#NHSNStaphAureusSpecificTest) 2.16.840.1.114222.4.11.7160 STATIC (CONF:22693).
8. SHALL contain exactly one [1..1] statusCode (CONF:22694).
   1. This statusCode SHALL contain exactly one [1..1] @code="completed" (CONF:22695).
9. SHALL contain exactly one [1..1] effectiveTime (CONF:22696).
   1. This effectiveTime SHALL contain exactly one [1..1] @nullFlavor="NA" (CONF:22697).
10. SHALL contain exactly one [1..1] value (CONF:22698).

Table 105: NHSNStaphAureusSpecificTest

|  |  |  |  |
| --- | --- | --- | --- |
| Value Set: NHSNStaphAureusSpecificTest 2.16.840.1.114222.4.11.7160  Code System: LOINC 2.16.840.1.113883.6.1 | | | |
| Code | Code System | Code System OID | Print Name |
| 42721-1 | LOINC | 2.16.840.1.113883.6.1 | Oxacillin Resistant Staphylococcus sp isolate [Presence] in Isolate by Latex agglutination |
| 48813-0 | LOINC | 2.16.840.1.113883.6.1 | Bacterial methicillin resistance (mecA) gene [Presence] by Probe and target amplification method |

Figure 31: ARO Staph Aureus Specific Tests Result Example

<observation classCode="OBS" moodCode="EVN">

<!-- ARO Staph Aureus Specific Tests Result Observation -->

<templateId root="2.16.840.1.113883.10.20.5.6.189"/>

<!-- Conforms to Consolidated CDA Result Observation template -->

<templateId root="2.16.840.1.113883.10.20.22.4.2"/>

<id nullFlavor="NA"/>

<code code="42721-1"

displayName="Oxacillin Resistant Staphylococcus sp isolate [Presence]

in Isolate by Latex agglutination"

codeSystem="2.16.840.1.113883.6.1"

codeSystemName="LOINC"/>

<statusCode code="completed"/>

<effectiveTime nullFlavor="NA"/>

<value xsi:type="CD" codeSystem="2.16.840.1.113883.6.96"

codeSystemName="SNOMED CT"

code="260385009"

displayName="Negative"/>

</observation>

ASA Class Observation

[observation: identifier oid:2.16.840.1.113883.10.20.5.6.113 (closed)]

Table 106: ASA Class Observation Contexts

| Contained By: | Contains: |
| --- | --- |
| [Infection Risk Factors Section in a Procedure Report](#S_Infection_Risk_Factors_Section_in_a_P) (optional) |  |

This observation records the patient’s physical status using the American Society of Anesthesiologists (ASA) Class Codes. The SNOMED CT representation of ASA Class Codes includes a sixth value (413500003 ASA physical status class 6 for brain-dead patients taken to the operating room to remove organs for transplant). This sixth value is not part of the value set allowed in a CDA document submitted to NHSN.

Table 107: ASA Class Observation Constraints Overview

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| XPath | Card. | Verb | Data Type | CONF# | Value |
| observation (identifier: oid:2.16.840.1.113883.10.20.5.6.113) | | | | | |
| @classCode | 1..1 | SHALL |  | [19583](#C_19583) | 2.16.840.1.113883.5.6 (HL7ActClass) = OBS |
| @moodCode | 1..1 | SHALL |  | [19584](#C_19584) | 2.16.840.1.113883.5.1001 (ActMood) = EVN |
| @negationInd | 1..1 | SHALL |  | [19585](#C_19585) | false |
| templateId | 1..1 | SHALL |  | [28213](#C_28213) |  |
| @root | 1..1 | SHALL |  | [28214](#C_28214) | 2.16.840.1.113883.10.20.22.4.4 |
| templateId | 1..1 | SHALL |  | [19594](#C_19594) |  |
| @root | 1..1 | SHALL |  | [19595](#C_19595) | 2.16.840.1.113883.10.20.5.6.113 |
| id | 1..1 | SHALL |  | [19596](#C_19596) |  |
| @nullFlavor | 1..1 | SHALL |  | [22724](#C_22724) | NA |
| code | 1..1 | SHALL |  | [19586](#C_19586) |  |
| @code | 1..1 | SHALL |  | [19587](#C_19587) | 2.16.840.1.113883.5.4 (ActCode) = ASSERTION |
| statusCode | 1..1 | SHALL |  | [19588](#C_19588) |  |
| @code | 1..1 | SHALL |  | [19589](#C_19589) | 2.16.840.1.113883.5.14 (ActStatus) = completed |
| value | 1..1 | SHALL | CD | [19590](#C_19590) | 2.16.840.1.113883.13.10 (NHSNASAClassCode) |

1. Conforms to Problem Observation template (identifier: oid:2.16.840.1.113883.10.20.22.4.4).
2. SHALL contain exactly one [1..1] @classCode="OBS" Observation (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 STATIC) (CONF:19583).
3. SHALL contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 STATIC) (CONF:19584).
4. SHALL contain exactly one [1..1] @negationInd="false" (CONF:19585).
5. SHALL contain exactly one [1..1] templateId (CONF:28213) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.4.4" (CONF:28214).
6. SHALL contain exactly one [1..1] templateId (CONF:19594) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.6.113" (CONF:19595).
7. SHALL contain exactly one [1..1] id (CONF:19596).
   1. This id SHALL contain exactly one [1..1] @nullFlavor="NA" (CONF:22724).
8. SHALL contain exactly one [1..1] code (CONF:19586).
   1. This code SHALL contain exactly one [1..1] @code="ASSERTION" Assertion (CodeSystem: ActCode 2.16.840.1.113883.5.4 STATIC) (CONF:19587).
9. SHALL contain exactly one [1..1] statusCode (CONF:19588).
   1. This statusCode SHALL contain exactly one [1..1] @code="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14 STATIC) (CONF:19589).
10. SHALL contain exactly one [1..1] value with @xsi:type="CD", where the code SHALL be selected from ValueSet [NHSNASAClassCode](#NHSNASAClassCode) 2.16.840.1.113883.13.10 STATIC 2008-01-30 (CONF:19590).

Table 108: NHSNASAClassCode

|  |  |  |  |
| --- | --- | --- | --- |
| Value Set: NHSNASAClassCode 2.16.840.1.113883.13.10  Code System: SNOMED CT 2.16.840.1.113883.6.96 | | | |
| Code | Code System | Code System OID | Print Name |
| 413495001 | SNOMED CT | 2.16.840.1.113883.6.96 | Normally healthy patient |
| 413496000 | SNOMED CT | 2.16.840.1.113883.6.96 | Patient with mild systemic disease |
| 413497009 | SNOMED CT | 2.16.840.1.113883.6.96 | Patient with severe systemic disease, not incapacitating |
| 413498004 | SNOMED CT | 2.16.840.1.113883.6.96 | Patient with incapacitating systemic disease, constant threat to life |
| 413499007 | SNOMED CT | 2.16.840.1.113883.6.96 | Moribund patient, &lt; 24-hour life expectancy |

Figure 32: ASA Class Observation Example

<!-- ASA Class Observation -->

<observation classCode="OBS" moodCode="EVN" negationInd="false">

<!-- C-CDA Problem Observation templateId -->

<templateId root="2.16.840.1.113883.10.20.22.4.4"/>

<!-- ASA Class Observation templateId -->

<templateId root="2.16.840.1.113883.10.20.5.6.113"/>

<id nullFlavor="NA"/>

<code codeSystem="2.16.840.1.113883.5.4" code="ASSERTION"/>

<statusCode code="completed"/>

<value xsi:type="CD"

codeSystem="2.16.840.1.113883.6.96"

codeSystemName="SNOMED"

code="413495001" displayName="Normally healthy patient"/>

</observation>

Bloodstream Infection Evidence Type Observation

[observation: identifier oid:2.16.840.1.113883.10.20.5.6.114 (closed)]

Table 109: Bloodstream Infection Evidence Type Observation Contexts

| Contained By: | Contains: |
| --- | --- |
| [Infection-Type Observation](#E_InfectionType_Observation) (optional) |  |

This observation records whether the bloodstream infection being reported was confirmed by a positive blood culture.

Table 110: Bloodstream Infection Evidence Type Observation Constraints Overview

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| XPath | Card. | Verb | Data Type | CONF# | Value |
| observation (identifier: oid:2.16.840.1.113883.10.20.5.6.114) | | | | | |
| @classCode | 1..1 | SHALL |  | [19597](#C_19597) | 2.16.840.1.113883.5.6 (HL7ActClass) = OBS |
| @moodCode | 1..1 | SHALL |  | [19598](#C_19598) | 2.16.840.1.113883.5.1001 (ActMood) = EVN |
| @negationInd | 1..1 | SHALL |  | [19599](#C_19599) | false |
| templateId | 1..1 | SHALL |  | [28215](#C_28215) |  |
| @root | 1..1 | SHALL |  | [28216](#C_28216) | 2.16.840.1.113883.10.20.22.4.4 |
| templateId | 1..1 | SHALL |  | [19608](#C_19608) |  |
| @root | 1..1 | SHALL |  | [19609](#C_19609) | 2.16.840.1.113883.10.20.5.6.114 |
| id | 1..1 | SHALL |  | [19610](#C_19610) |  |
| @nullFlavor | 1..1 | SHALL |  | [22725](#C_22725) | NA |
| code | 1..1 | SHALL |  | [19600](#C_19600) |  |
| @code | 1..1 | SHALL |  | [19601](#C_19601) | 2.16.840.1.113883.5.4 (ActCode) = ASSERTION |
| statusCode | 1..1 | SHALL |  | [19602](#C_19602) |  |
| @code | 1..1 | SHALL |  | [19603](#C_19603) | 2.16.840.1.113883.5.14 (ActStatus) = completed |
| value | 1..1 | SHALL | CD | [19604](#C_19604) | 2.16.840.1.113883.13.7 (NHSNBloodStreamInfectionEvidenceTypeCode) |

1. Conforms to Problem Observation template (identifier: oid:2.16.840.1.113883.10.20.22.4.4).
2. SHALL contain exactly one [1..1] @classCode="OBS" Observation (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 STATIC) (CONF:19597).
3. SHALL contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 STATIC) (CONF:19598).
4. SHALL contain exactly one [1..1] @negationInd="false" (CONF:19599).
5. SHALL contain exactly one [1..1] templateId (CONF:28215) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.4.4" (CONF:28216).
6. SHALL contain exactly one [1..1] templateId (CONF:19608) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.6.114" (CONF:19609).
7. SHALL contain exactly one [1..1] id (CONF:19610).
   1. This id SHALL contain exactly one [1..1] @nullFlavor="NA" (CONF:22725).
8. SHALL contain exactly one [1..1] code (CONF:19600).
   1. This code SHALL contain exactly one [1..1] @code="ASSERTION" Assertion (CodeSystem: ActCode 2.16.840.1.113883.5.4 STATIC) (CONF:19601).
9. SHALL contain exactly one [1..1] statusCode (CONF:19602).
   1. This statusCode SHALL contain exactly one [1..1] @code="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14 STATIC) (CONF:19603).
10. SHALL contain exactly one [1..1] value with @xsi:type="CD", where the code SHALL be selected from ValueSet [NHSNBloodStreamInfectionEvidenceTypeCode](#NHSNBloodStreamInfectionEvidenceTypeCod) 2.16.840.1.113883.13.7 DYNAMIC (CONF:19604).

Table 111: NHSNBloodStreamInfectionEvidenceTypeCode

|  |  |  |  |
| --- | --- | --- | --- |
| Value Set: NHSNBloodStreamInfectionEvidenceTypeCode 2.16.840.1.113883.13.7  Code System: cdcNHSN 2.16.840.1.113883.6.277 | | | |
| Code | Code System | Code System OID | Print Name |
| 1613-9 | cdcNHSN | 2.16.840.1.113883.6.277 | Laboratory-confirmed bloodstream infection |

Figure 33: Bloodstream Infection Evidence Type Observation Example

<observation classCode="OBS" moodCode="EVN" negationInd="false">

<!-- C-CDA Problem Observation templateId -->

<templateId root="2.16.840.1.113883.10.20.22.4.4"/>

<!-- HAI Bloodstream Infection Evidence Type Observation templateId -->

<templateId root="2.16.840.1.113883.10.20.5.6.114"/>

<id nullFlavor="NA"/>

<code codeSystem="2.16.840.1.113883.5.4"

code=”ASSERTION”/>

<statusCode code=”completed”/>

<value xsi:type=”CD”

codeSystem=”2.16.840.1.113883.6.277”

codeSystemName=”cdcNHSN”

value=”1613-9”

displayName=” Laboratory-confirmed bloodstream infection”/>

</observation>

Buttonhole Cannulation Observation

[observation: identifier oid:2.16.840.1.113883.10.20.5.6.115 (closed)]

Table 112: Buttonhole Cannulation Observation Contexts

| Contained By: | Contains: |
| --- | --- |
| [Vascular Access Type Observation](#E_Vascular_Access_Type_Observation) (optional) |  |

This observation records whether the patient’s fistula is accessed by buttonhole cannulation. This observation does not record a specific dialysis event but rather the technique in current use with the patient.

When buttonhole cannulation is used, set the value of @negationInd to false. When the buttonhole cannulation is not used, set the value of @negationInd to true.

Table 113: Buttonhole Cannulation Observation Constraints Overview

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| XPath | Card. | Verb | Data Type | CONF# | Value |
| observation (identifier: oid:2.16.840.1.113883.10.20.5.6.115) | | | | | |
| @classCode | 1..1 | SHALL |  | [21764](#C_21764) | 2.16.840.1.113883.5.6 (HL7ActClass) = OBS |
| @moodCode | 1..1 | SHALL |  | [21765](#C_21765) | 2.16.840.1.113883.5.1001 (ActMood) = EVN |
| @negationInd | 1..1 | SHALL |  | [21766](#C_21766) |  |
| templateId | 1..1 | SHALL |  | [28217](#C_28217) |  |
| @root | 1..1 | SHALL |  | [28218](#C_28218) | 2.16.840.1.113883.10.20.22.4.13 |
| templateId | 1..1 | SHALL |  | [21775](#C_21775) |  |
| @root | 1..1 | SHALL |  | [21776](#C_21776) | 2.16.840.1.113883.10.20.5.6.115 |
| id | 1..1 | SHALL |  | [21777](#C_21777) |  |
| @nullFlavor | 1..1 | SHALL |  | [22726](#C_22726) | NA |
| code | 1..1 | SHALL |  | [21767](#C_21767) |  |
| @code | 1..1 | SHALL |  | [21768](#C_21768) | 2.16.840.1.113883.5.4 (ActCode) = ASSERTION |
| statusCode | 1..1 | SHALL |  | [21769](#C_21769) |  |
| @code | 1..1 | SHALL |  | [21770](#C_21770) | 2.16.840.1.113883.5.14 (ActStatus) = completed |
| value | 1..1 | SHALL | CD | [21771](#C_21771) |  |
| @code | 1..1 | SHALL |  | [21772](#C_21772) | 2.16.840.1.113883.6.277 (cdcNHSN) = 2308-5 |

1. Conforms to Procedure Activity Observation template (identifier: oid:2.16.840.1.113883.10.20.22.4.13).
2. SHALL contain exactly one [1..1] @classCode="OBS" Observation (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 STATIC) (CONF:21764).

When buttonhole cannulation is used, set the value of @negationInd to false. When the buttonhole cannulation is not used, set the value of @negationInd to true.

1. SHALL contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 STATIC) (CONF:21765).
2. SHALL contain exactly one [1..1] @negationInd (CONF:21766).
3. SHALL contain exactly one [1..1] templateId (CONF:28217) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.4.13" (CONF:28218).
4. SHALL contain exactly one [1..1] templateId (CONF:21775) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.6.115" (CONF:21776).
5. SHALL contain exactly one [1..1] id (CONF:21777).
   1. This id SHALL contain exactly one [1..1] @nullFlavor="NA" (CONF:22726).
6. SHALL contain exactly one [1..1] code (CONF:21767).
   1. This code SHALL contain exactly one [1..1] @code="ASSERTION" Assertion (CodeSystem: ActCode 2.16.840.1.113883.5.4 STATIC) (CONF:21768).
7. SHALL contain exactly one [1..1] statusCode (CONF:21769).
   1. This statusCode SHALL contain exactly one [1..1] @code="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14 STATIC) (CONF:21770).
8. SHALL contain exactly one [1..1] value with @xsi:type="CD" (CONF:21771).
   1. This value SHALL contain exactly one [1..1] @code="2308-5" Buttonhole cannulation (CodeSystem: cdcNHSN 2.16.840.1.113883.6.277 STATIC) (CONF:21772).

Figure 34: Buttonhole Cannulation Observation Example

<!-- Buttonhole cannulation is used -->

<observation classCode="OBS" moodCode="EVN" negationInd=”true">

<!-- C-CDA Procedure Activity Observation -->

<templateId root="2.16.840.1.113883.10.20.22.4.13"/>

<!-- HAI Buttonhole Cannulation Observation templateId -->

<templateId root="2.16.840.1.113883.10.20.5.6.115"/>

<id nullFlavor="NA"/>

<code codeSystem="2.16.840.1.113883.5.4"

code="ASSERTION"/>

<statusCode code="completed"/>

<value xsi:type="CD"

codeSystem="2.16.840.1.113883.6.277"

codeSystemName="cdcNHSN"

code="2308-5"

displayName="Buttonhole cannulation"/>

</observation>

Central-Line Insertion Practice Clinical Statement

[act: identifier oid:2.16.840.1.113883.10.20.5.6.116 (closed)]

Table 114: Central-Line Insertion Practice Clinical Statement Contexts

| Contained By: | Contains: |
| --- | --- |
| [Infection Risk Factors Section in a CLIP Report](#S_Infection_Risk_Factors_Section_in_a_C) (required) | [Central-Line Insertion Preparation Organizer](#E_CentralLine_Insertion_Preparation_Org)  [Solutions Dried Observation](#E_Solutions_Dried_Observation) |

This clinical statement records whether specified infection-prevention actions were performed in a specified sequence.

Recording sequence is expressed with the CDA entryRelationship/sequenceNumber feature. This follows the RIM modeling for definitions (e.g., of a protocol).

A @negationInd on each step expresses whether the step did or did not occur in sequence.

Below are the items, in sequence, to record within the Central-Line Insertion Practice Report:

   •  preparation

   •  hand hygiene

   •  sterile barriers

   •  skin solution(s) applied

   •  skin solution(s) had dried

Table 115: Central-Line Insertion Practice Clinical Statement Constraints Overview

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| XPath | Card. | Verb | Data Type | CONF# | Value |
| act (identifier: oid:2.16.840.1.113883.10.20.5.6.116) | | | | | |
| @classCode | 1..1 | SHALL |  | [22005](#C_22005) | 2.16.840.1.113883.5.6 (HL7ActClass) = ACT |
| @moodCode | 1..1 | SHALL |  | [22006](#C_22006) | 2.16.840.1.113883.5.1001 (ActMood) = EVN |
| @negationInd | 1..1 | SHALL |  | [22007](#C_22007) | false |
| templateId | 1..1 | SHALL |  | [22965](#C_22965) |  |
| @root | 1..1 | SHALL |  | [22967](#C_22967) | 2.16.840.1.113883.10.20.5.6.116 |
| id | 1..1 | SHALL |  | [22966](#C_22966) |  |
| @nullFlavor | 1..1 | SHALL |  | [22968](#C_22968) |  |
| code | 1..1 | SHALL |  | [22018](#C_22018) |  |
| @code | 1..1 | SHALL |  | [22019](#C_22019) | 2.16.840.1.113883.6.277 (cdcNHSN) = 3108-8 |
| entryRelationship | 1..1 | SHALL |  | [22008](#C_22008) |  |
| @typeCode | 1..1 | SHALL |  | [22009](#C_22009) | 2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = COMP |
| sequenceNumber | 1..1 | SHALL |  | [22011](#C_22011) |  |
| @value | 1..1 | SHALL |  | [22012](#C_22012) | 1 |
| organizer | 1..1 | SHALL |  | [22010](#C_22010) | [Central-Line Insertion Preparation Organizer (identifier: oid:2.16.840.1.113883.10.20.5.6.179](#E_CentralLine_Insertion_Preparation_Org) |
| entryRelationship | 1..1 | SHALL |  | [22013](#C_22013) |  |
| @typeCode | 1..1 | SHALL |  | [22014](#C_22014) | 2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = COMP |
| sequenceNumber | 1..1 | SHALL |  | [22016](#C_22016) |  |
| @value | 1..1 | SHALL |  | [22017](#C_22017) | 2 |
| observation | 1..1 | SHALL |  | [22015](#C_22015) | [Solutions Dried Observation (identifier: oid:2.16.840.1.113883.10.20.5.6.163](#E_Solutions_Dried_Observation) |

1. Conforms to Procedure Activity Act template (identifier: oid:2.16.840.1.113883.10.20.22.4.12).
2. SHALL contain exactly one [1..1] @classCode="ACT" Act (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 STATIC) (CONF:22005).
3. SHALL contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 STATIC) (CONF:22006).
4. SHALL contain exactly one [1..1] @negationInd="false" (CONF:22007).
5. SHALL contain exactly one [1..1] templateId (CONF:22965) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.6.116" (CONF:22967).
6. SHALL contain exactly one [1..1] id (CONF:22966).
   1. This id SHALL contain exactly one [1..1] @nullFlavor (CONF:22968).
7. SHALL contain exactly one [1..1] code (CONF:22018).
   1. This code SHALL contain exactly one [1..1] @code="3108-8" Central line insertion practice (CodeSystem: cdcNHSN 2.16.840.1.113883.6.277 STATIC) (CONF:22019).
8. SHALL contain exactly one [1..1] entryRelationship (CONF:22008) such that it
   1. SHALL contain exactly one [1..1] @typeCode="COMP" Has component (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002 STATIC) (CONF:22009).
   2. SHALL contain exactly one [1..1] sequenceNumber (CONF:22011).
      1. This sequenceNumber SHALL contain exactly one [1..1] @value="1" (CONF:22012).
   3. SHALL contain exactly one [1..1] [Central-Line Insertion Preparation Organizer](#E_CentralLine_Insertion_Preparation_Org) (identifier: oid:2.16.840.1.113883.10.20.5.6.179) (CONF:22010).
9. SHALL contain exactly one [1..1] entryRelationship (CONF:22013) such that it
   1. SHALL contain exactly one [1..1] @typeCode="COMP" Has component (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002 STATIC) (CONF:22014).
   2. SHALL contain exactly one [1..1] sequenceNumber (CONF:22016).
      1. This sequenceNumber SHALL contain exactly one [1..1] @value="2" (CONF:22017).
   3. SHALL contain exactly one [1..1] [Solutions Dried Observation](#E_Solutions_Dried_Observation) (identifier: oid:2.16.840.1.113883.10.20.5.6.163) (CONF:22015).

Figure 35: Central-Line Insertion Practice Clinical Statement Example

act moodCode="EVN" classCode="ACT" negationInd="false">

<!-- C-CDA Procedure Activity Act templateId -->

<templateId root="2.16.840.1.113883.10.20.22.4.12" />

<!-- HAI Central-line Insertion Practice Clinical Statement templateId -->

<templateId root="2.16.840.1.113883.10.20.5.6.116" />

<id nullFlavor="NA" />

<code code="3108-8"

codeSystem="2.16.840.1.113883.6.277"

codeSystemName="cdcNHSN"

displayName="Central line insertion practice" />

<entryRelationship typeCode="COMP">

<sequenceNumber value="1" />

<organizer>

<!-- HAI Central-Line Insertion Preparation Organizer -->

<templateId root="2.16.840.1.113883.10.20.5.6.179" />

...

</organizer>

</entryRelationship>

<entryRelationship typeCode="COMP">

<sequenceNumber value="2" />

<observation>

<!-- C-CDA Problem Observation templateId -->

<templateId root="2.16.840.1.113883.10.20.22.4.4" />

<!-- HAI Solutions Dried Observation -->

<templateId root="2.16.840.1.113883.10.20.5.6.163" />

...

</observation>

</entryRelationship>

</act>

Central-Line Insertion Preparation Organizer

[organizer: identifier oid:2.16.840.1.113883.10.20.5.6.179 (closed)]

Table 116: Central-Line Insertion Preparation Organizer Contexts

| Contained By: | Contains: |
| --- | --- |
| [Central-Line Insertion Practice Clinical Statement](#E_CentralLine_Insertion_Practice_Clinic) (required) | [Hand Hygiene Performed Clinical Statement](#E_Hand_Hygiene_Performed_Clinical_State)  [Skin-Preparation Solutions Applied Organizer](#E_SkinPreparation_Solutions_Applied_Org)  [Sterile Barriers Applied Clinical Statement](#E_Sterile_Barriers_Applied_Clinical_Sta) |

This organizer represents the first step in the central-line insertion practice sequence. It records three types of preparations (which may have occurred in any order): hand hygiene, skin-preparation solutions, and sterile barriers.

Table 117: Central-Line Insertion Preparation Organizer Constraints Overview

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| XPath | Card. | Verb | Data Type | CONF# | Value |
| organizer (identifier: oid:2.16.840.1.113883.10.20.5.6.179) | | | | | |
| @classCode | 1..1 | SHALL |  | [22086](#C_22086) | 2.16.840.1.113883.5.6 (HL7ActClass) = CLUSTER |
| @moodCode | 1..1 | SHALL |  | [22087](#C_22087) | 2.16.840.1.113883.5.1001 (ActMood) = EVN |
| templateId | 1..1 | SHALL |  | [22088](#C_22088) |  |
| @root | 1..1 | SHALL |  | [22089](#C_22089) | 2.16.840.1.113883.10.20.5.6.179 |
| id | 1..1 | SHALL |  | [22090](#C_22090) |  |
| @nullFlavor | 1..1 | SHALL |  | [22733](#C_22733) | NA |
| statusCode | 1..1 | SHALL |  | [22091](#C_22091) |  |
| @code | 1..1 | SHALL |  | [23060](#C_23060) | 2.16.840.1.113883.5.14 (ActStatus) = completed |
| component | 1..1 | SHALL |  | [22092](#C_22092) |  |
| procedure | 1..1 | SHALL |  | [23057](#C_23057) | [Hand Hygiene Performed Clinical Statement (identifier: oid:2.16.840.1.113883.10.20.5.6.130](#E_Hand_Hygiene_Performed_Clinical_State) |
| component | 1..1 | SHALL |  | [22093](#C_22093) |  |
| organizer | 1..1 | SHALL |  | [23058](#C_23058) | [Skin-Preparation Solutions Applied Organizer (identifier: oid:2.16.840.1.113883.10.20.5.6.183](#E_SkinPreparation_Solutions_Applied_Org) |
| component | 1..1 | SHALL |  | [22094](#C_22094) |  |
| procedure | 1..1 | SHALL |  | [23059](#C_23059) | [Sterile Barriers Applied Clinical Statement (identifier: oid:2.16.840.1.113883.10.20.5.6.167](#E_Sterile_Barriers_Applied_Clinical_Sta) |

1. SHALL contain exactly one [1..1] @classCode="CLUSTER" Cluster (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 STATIC) (CONF:22086).
2. SHALL contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 STATIC) (CONF:22087).
3. SHALL contain exactly one [1..1] templateId (CONF:22088) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.6.179" (CONF:22089).
4. SHALL contain exactly one [1..1] id (CONF:22090).
   1. This id SHALL contain exactly one [1..1] @nullFlavor="NA" (CONF:22733).
5. SHALL contain exactly one [1..1] statusCode (CONF:22091).
   1. This statusCode SHALL contain exactly one [1..1] @code="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14) (CONF:23060).
6. SHALL contain exactly one [1..1] component (CONF:22092) such that it
   1. SHALL contain exactly one [1..1] [Hand Hygiene Performed Clinical Statement](#E_Hand_Hygiene_Performed_Clinical_State) (identifier: oid:2.16.840.1.113883.10.20.5.6.130) (CONF:23057).
7. SHALL contain exactly one [1..1] component (CONF:22093) such that it
   1. SHALL contain exactly one [1..1] [Skin-Preparation Solutions Applied Organizer](#E_SkinPreparation_Solutions_Applied_Org) (identifier: oid:2.16.840.1.113883.10.20.5.6.183) (CONF:23058).
8. SHALL contain exactly one [1..1] component (CONF:22094) such that it
   1. SHALL contain exactly one [1..1] [Sterile Barriers Applied Clinical Statement](#E_Sterile_Barriers_Applied_Clinical_Sta) (identifier: oid:2.16.840.1.113883.10.20.5.6.167) (CONF:23059).

Figure 36: Central-Line Insertion Preparation Organizer Example

<sequenceNumber value="1"/>

<organizer moodCode="EVN" classCode="CLUSTER">

<templateId root="2.16.840.1.113883.10.20.5.6.179"/>

<id nullFlavor="NA"/>

<statusCode code="completed"/>

<component>

<procedure>

<!-- Hand hygiene performed -->

<!-- C-CDA Procedure Activity Procedure templateId -->

<templateId root="2.16.840.1.113883.10.20.22.4.14"/>

<!-- HAI Hand Hygiene Performed Clinical Statement templateId -->

<templateId root="2.16.840.1.113883.10.20.5.6.130"/>

...

</procedure>

</component>

<component>

<organizer>

<!—Skin preparation solutions applied organizer -->

<templateId root="2.16.840.1.113883.10.20.5.6.183"/>

...

</organizer>

</component>

<component>

<procedure>

<!—Sterile barriers applied -->

<!-- C-CDA Procedure Activity Procedure templateId -->

<templateId root="2.16.840.1.113883.10.20.22.4.14"/>

<!-- HAI Sterile Barriers Applied Clinical Statement templateId -->

<templateId root="2.16.840.1.113883.10.20.5.6.167"/>

...

</procedure>

</component>

</organizer>

Closure Technique Procedure

[procedure: identifier oid:2.16.840.1.113883.10.20.5.6.117 (closed)]

Table 118: Closure Technique Procedure Contexts

| Contained By: | Contains: |
| --- | --- |
| [Procedure Details Clinical Statement in a Procedure Report (V2)](#Procedure_Details_Clinical_Statement_in) (required) |  |

This procedure identifies the closure technique used in surgical procedures.

Table 119: Closure Technique Procedure Constraints Overview

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| XPath | Card. | Verb | Data Type | CONF# | Value |
| procedure (identifier: oid:2.16.840.1.113883.10.20.5.6.117) | | | | | |
| @classCode | 1..1 | SHALL |  | [21028](#C_21028) | PROC |
| @moodCode | 1..1 | SHALL |  | [21029](#C_21029) | EVN |
| templateId | 1..1 | SHALL |  | [28219](#C_28219) |  |
| @root | 1..1 | SHALL |  | [28220](#C_28220) | 2.16.840.1.113883.10.20.22.4.14 |
| templateId | 1..1 | SHALL |  | [21038](#C_21038) |  |
| @root | 1..1 | SHALL |  | [21039](#C_21039) | 2.16.840.1.113883.10.20.5.6.117 |
| id | 1..1 | SHALL |  | [21040](#C_21040) |  |
| @nullFlavor | 1..1 | SHALL |  | [22734](#C_22734) | NA |
| code | 1..1 | SHALL |  | [21032](#C_21032) |  |
| @code | 1..1 | SHALL |  | [21033](#C_21033) | 2.16.840.1.113883.6.96 (SNOMED CT) = 112695004 |
| statusCode | 1..1 | SHALL |  | [21034](#C_21034) |  |
| @code | 1..1 | SHALL |  | [21035](#C_21035) | completed |
| methodCode | 1..1 | SHALL |  | [21036](#C_21036) | 2.16.840.1.114222.4.11.6051 (NHSNClosureTechniqueCode) |

1. Conforms to Procedure Activity Procedure template (identifier: oid:2.16.840.1.113883.10.20.22.4.14).
2. SHALL contain exactly one [1..1] @classCode="PROC" (CONF:21028).
3. SHALL contain exactly one [1..1] @moodCode="EVN" (CONF:21029).
4. SHALL contain exactly one [1..1] templateId (CONF:28219) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.4.14" (CONF:28220).
5. SHALL contain exactly one [1..1] templateId (CONF:21038) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.6.117" (CONF:21039).
6. SHALL contain exactly one [1..1] id (CONF:21040).
   1. This id SHALL contain exactly one [1..1] @nullFlavor="NA" (CONF:22734).
7. SHALL contain exactly one [1..1] code (CONF:21032).
   1. This code SHALL contain exactly one [1..1] @code="112695004" Surgical Closure (CodeSystem: SNOMED CT 2.16.840.1.113883.6.96 STATIC) (CONF:21033).
8. SHALL contain exactly one [1..1] statusCode (CONF:21034).
   1. This statusCode SHALL contain exactly one [1..1] @code="completed" (CONF:21035).
9. SHALL contain exactly one [1..1] methodCode, which SHALL be selected from ValueSet [NHSNClosureTechniqueCode](#NHSNClosureTechniqueCode) 2.16.840.1.114222.4.11.6051 STATIC (CONF:21036).

Table 120: NHSNClosureTechniqueCode

|  |  |  |  |
| --- | --- | --- | --- |
| Value Set: NHSNClosureTechniqueCode 2.16.840.1.114222.4.11.6051  Code System: cdcNHSN 2.16.840.1.113883.6.277 | | | |
| Code | Code System | Code System OID | Print Name |
| 2406-7 | cdcNHSN | 2.16.840.1.113883.6.277 | Primary |
| 2407-5 | cdcNHSN | 2.16.840.1.113883.6.277 | Other than Primary |

Figure 37: Closure Technique Procedure Example

<!-- Closure Technique Procedure -->

<procedure classCode="PROC" moodCode="EVN">

<!-- C-CDA Procedure Activity Procedure templateId -->

<templateId root="2.16.840.1.113883.10.20.22.4.14" />

<!-- HAI Closure Technique Procedure templateId -->

<templateId root="2.16.840.1.113883.10.20.5.6.117" />

<id nullFlavor="NA" />

<code code="112695004"

displayName="surgical closure"

codeSystem="2.16.840.1.113883.6.96"

codeSystemName="SNOMED CT" />

<statusCode code="completed" />

<methodCode code="2406-7"

displayName="Primary"

codeSystem="2.16.840.1.113883.6.277"

codeSystemName="cdcNHSN" />

</procedure>

Contraindicated Observation

[observation: identifier oid:2.16.840.1.113883.10.20.5.6.118 (closed)]

Table 121: Contraindicated Observation Contexts

| Contained By: | Contains: |
| --- | --- |
| [Skin Preparation Clinical Statement](#E_Skin_Preparation_Clinical_Statement) (optional) |  |

This observation records whether the target statement was contraindicated.

If the target statement was contraindicated, set the value of @negationInd to false. If the target statement was not contraindicated, set the value of @negationInd to true. If it is not known whether the target statement was contraindicated, set the value of @nullFlavor to UNK.

Table 122: Contraindicated Observation Constraints Overview

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| XPath | Card. | Verb | Data Type | CONF# | Value |
| observation (identifier: oid:2.16.840.1.113883.10.20.5.6.118) | | | | | |
| @nullFlavor | 0..1 | SHOULD |  | [21778](#C_21778) |  |
| @classCode | 1..1 | SHALL |  | [21780](#C_21780) | 2.16.840.1.113883.5.6 (HL7ActClass) = OBS |
| @moodCode | 1..1 | SHALL |  | [21781](#C_21781) | 2.16.840.1.113883.5.1001 (ActMood) = EVN |
| @negationInd | 0..1 | SHOULD |  | [21782](#C_21782) |  |
| templateId | 1..1 | SHALL |  | [21785](#C_21785) |  |
| @root | 1..1 | SHALL |  | [21795](#C_21795) | 2.16.840.1.113883.10.20.5.6.118 |
| id | 1..1 | SHALL |  | [21786](#C_21786) |  |
| code | 1..1 | SHALL |  | [21787](#C_21787) |  |
| @code | 1..1 | SHALL |  | [21788](#C_21788) | 2.16.840.1.113883.5.4 (ActCode) = ASSERTION |
| statusCode | 1..1 | SHALL |  | [21789](#C_21789) |  |
| @code | 1..1 | SHALL |  | [21790](#C_21790) | 2.16.840.1.113883.5.14 (ActStatus) = completed |
| value | 1..1 | SHALL | CD | [21791](#C_21791) |  |
| @code | 1..1 | SHALL |  | [21792](#C_21792) | 2.16.840.1.113883.6.96 (SNOMED CT) = 410536001 |

1. Conforms to Indication template (identifier: oid:2.16.840.1.113883.10.20.22.4.19).
2. SHOULD contain zero or one [0..1] @nullFlavor (CONF:21778).
   1. If it is not known whether the target statement was contraindicated, the value of @nullFlavor SHALL be UNK.  
      If the value of @nullFlavor is set to UNK then the value of @negationInd SHALL NOT be set (CONF:21779).
3. SHALL contain exactly one [1..1] @classCode="OBS" Observation (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 STATIC) (CONF:21780).
4. SHALL contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 STATIC) (CONF:21781).
5. SHOULD contain zero or one [0..1] @negationInd (CONF:21782).
   1. If the target statement was contraindicated, the value of @negationInd SHALL be false. If the target statement was not contraindicated, the value of @negationInd SHALL be true. If the value of @negationInd is set then the value of @nullFlavor SHALL NOT be set (CONF:21783).
6. SHALL contain exactly one [1..1] templateId (CONF:21785) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.6.118" (CONF:21795).
7. SHALL contain exactly one [1..1] id (CONF:21786).
   1. Set the observation/id equal to an ID on the problem list to signify that problem as an indication (CONF:21793).
8. SHALL contain exactly one [1..1] code (CONF:21787).
   1. This code SHALL contain exactly one [1..1] @code="ASSERTION" Assertion (CodeSystem: ActCode 2.16.840.1.113883.5.4 STATIC) (CONF:21788).
9. SHALL contain exactly one [1..1] statusCode (CONF:21789).
   1. This statusCode SHALL contain exactly one [1..1] @code="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14 STATIC) (CONF:21790).
10. SHALL contain exactly one [1..1] value with @xsi:type="CD" (CONF:21791).
    1. This value SHALL contain exactly one [1..1] @code="410536001" Contraindicated (CodeSystem: SNOMED CT 2.16.840.1.113883.6.96 STATIC) (CONF:21792).

Figure 38: Contraindicated Observation Example—contraindicated

<!-- It is true (not negated) that the target statement was contraindicated -->

<observation classCode="OBS" moodCode="EVN" negationInd="false">

<!-- C-CDA Indication templateId-->

<templateId root="2.16.840.1.113883.10.20.22.4.19"/>

<!-- HAI Contraindicated Observation templateId -->

<templateId root="2.16.840.1.113883.10.20.5.6.118"/>

<id nullFlavor="NA"/>

<code codeSystem="2.16.840.1.113883.5.4"

code="ASSERTION"/>

<statusCode code="completed"/>

<value xsi:type="CD"

code="410536001"

codeSystem="2.16.840.1.113883.6.96"

codeSystemName="SNOMED"

displayName="Contraindicated"/>

</observation>

Figure 39: Contraindicated Observation Example—not contraindicated

<!-- It is false (negated) that the target statement was contraindicated -->

<observation classCode="OBS" moodCode="EVN" negationInd="true">

<!-- C-CDA Indication templateId-->

<templateId root="2.16.840.1.113883.10.20.22.4.19"/>

<!-- HAI Contraindicated Observation templateId -->

<templateId root="2.16.840.1.113883.10.20.5.6.118"/>

<code codeSystem="2.16.840.1.113883.5.4"

code="ASSERTION"/>

<statusCode code="completed"/>

<value xsi:type="CD"

code="410536001"

codeSystem="2.16.840.1.113883.6.96"

codeSystemName="SNOMED"

displayName="Contraindicated"/>

</observation>

Criteria of Diagnosis Organizer

[organizer: identifier oid:2.16.840.1.113883.10.20.5.6.180 (closed)]

Table 123: Criteria of Diagnosis Organizer Contexts

| Contained By: | Contains: |
| --- | --- |
| [Infection-Type Observation](#E_InfectionType_Observation) (required)  [Details Section in an Evidence of Infection (Dialysis) Report (V2)](#S_Details_Section_in_an_Evidence_of_V2) (required) | [Criterion of Diagnosis Observation](#E_Criterion_of_Diagnosis_Observation) |

This organizer groups together the criteria used in the diagnosis of an infection or the identification of an adverse reaction. Each criterion is recorded as a Criterion of Diagnosis Observation.

The Criteria of Diagnosis Organizer is used in several report types. The NHSN protocol specifies which criteria are to be recorded for each report type. Those rules do not form part of this template. The NHSN submission requirement is that, in a given report type, a Criterion of Diagnosis Observation must be present for every datum required by the NHSN protocol for that report type, with an appropriate value for @negationInd.

In an Evidence of Infection (Dialysis) Report, to record that none of the criteria of diagnosis was present, set the value of the observation/@negationInd to true for each criterion required in this report.

Table 124: Criteria of Diagnosis Organizer Constraints Overview

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| XPath | Card. | Verb | Data Type | CONF# | Value |
| organizer (identifier: oid:2.16.840.1.113883.10.20.5.6.180) | | | | | |
| @classCode | 1..1 | SHALL |  | [22101](#C_22101) | 2.16.840.1.113883.5.6 (HL7ActClass) = CLUSTER |
| @moodCode | 1..1 | SHALL |  | [22102](#C_22102) | 2.16.840.1.113883.5.1001 (ActMood) = EVN |
| templateId | 1..1 | SHALL |  | [22103](#C_22103) |  |
| @root | 1..1 | SHALL |  | [22104](#C_22104) | 2.16.840.1.113883.10.20.5.6.180 |
| statusCode | 1..1 | SHALL |  | [22106](#C_22106) |  |
| @code | 1..1 | SHALL |  | [23061](#C_23061) | 2.16.840.1.113883.5.14 (ActStatus) = completed |
| component | 1..\* | SHALL |  | [22107](#C_22107) |  |
| observation | 1..1 | SHALL |  | [23062](#C_23062) | [Criterion of Diagnosis Observation (identifier: oid:2.16.840.1.113883.10.20.5.6.119](#E_Criterion_of_Diagnosis_Observation) |

1. SHALL contain exactly one [1..1] @classCode="CLUSTER" Cluster (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 STATIC) (CONF:22101).
2. SHALL contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 STATIC) (CONF:22102).
3. SHALL contain exactly one [1..1] templateId (CONF:22103) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.6.180" (CONF:22104).
4. SHALL contain exactly one [1..1] statusCode (CONF:22106).
   1. This statusCode SHALL contain exactly one [1..1] @code="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14) (CONF:23061).
5. SHALL contain at least one [1..\*] component (CONF:22107).
   1. Such components SHALL contain exactly one [1..1] [Criterion of Diagnosis Observation](#E_Criterion_of_Diagnosis_Observation) (identifier: oid:2.16.840.1.113883.10.20.5.6.119) (CONF:23062).

Figure 40: Criteria of Diagnosis Organizer Example

<organizer classCode="CLUSTER" moodCode="EVN”>

<templateId root=”2.16.840.1.113883.10.20.5.6.180”/>

<statusCode code="completed"/>

<component>

<observation classCode="OBS" moodCode="EVN" negationInd="false">

<!-- C-CDA Indication templateId -->

<templateId root="2.16.840.1.113883.10.20.22.4.19"/>

<!-- HAI Criteria of Diagnosis Observation templateId -->

<templateId root="2.16.840.1.113883.10.20.5.6.119"/>

...

</observation>

</component>

...

</organizer>

Criterion of Diagnosis Observation

[observation: identifier oid:2.16.840.1.113883.10.20.5.6.119 (closed)]

Table 125: Criterion of Diagnosis Observation Contexts

| Contained By: | Contains: |
| --- | --- |
| [Criteria of Diagnosis Organizer](#E_Criteria_of_Diagnosis_Organizer) (required) |  |

This observation records a criterion used in the diagnosis of the infection type or the identification of an adverse reaction. It appears within the Criterion of Diagnosis Organizer. In infection-type reports it is used with the Criterion of Diagnosis vocabulary.

If the criterion was present, set the value of @negationInd to false. If the criterion was not present, set the value of @negationInd to true.

The NHSN protocol specifies which Criterion of Diagnosis Observations must appear in each report type for which they are required. Those rules do not form part of this template.

Table 126: Criterion of Diagnosis Observation Constraints Overview

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| XPath | Card. | Verb | Data Type | CONF# | Value |
| observation (identifier: oid:2.16.840.1.113883.10.20.5.6.119) | | | | | |
| @classCode | 1..1 | SHALL |  | [22126](#C_22126) | 2.16.840.1.113883.5.6 (HL7ActClass) = OBS |
| @moodCode | 1..1 | SHALL |  | [22127](#C_22127) | 2.16.840.1.113883.5.1001 (ActMood) = EVN |
| @negationInd | 1..1 | SHALL |  | [22128](#C_22128) |  |
| templateId | 1..1 | SHALL |  | [28221](#C_28221) |  |
| @root | 1..1 | SHALL |  | [28222](#C_28222) | 2.16.840.1.113883.10.20.22.4.19 |
| templateId | 1..1 | SHALL |  | [22129](#C_22129) |  |
| @root | 1..1 | SHALL |  | [22140](#C_22140) | 2.16.840.1.113883.10.20.5.6.119 |
| id | 1..1 | SHALL |  | [22130](#C_22130) |  |
| @nullFlavor | 1..1 | SHALL |  | [22736](#C_22736) | NA |
| code | 1..1 | SHALL |  | [22131](#C_22131) |  |
| @code | 1..1 | SHALL |  | [22132](#C_22132) | 2.16.840.1.113883.5.4 (ActCode) = ASSERTION |
| statusCode | 1..1 | SHALL |  | [22133](#C_22133) |  |
| @code | 1..1 | SHALL |  | [22134](#C_22134) | 2.16.840.1.113883.5.14 (ActStatus) = completed |
| value | 1..1 | SHALL |  | [22135](#C_22135) |  |

1. Conforms to Indication template (identifier: oid:2.16.840.1.113883.10.20.22.4.19).
2. SHALL contain exactly one [1..1] @classCode="OBS" Observation (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 STATIC) (CONF:22126).
3. SHALL contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 STATIC) (CONF:22127).
4. SHALL contain exactly one [1..1] @negationInd (CONF:22128).
5. SHALL contain exactly one [1..1] templateId (CONF:28221) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.4.19" (CONF:28222).
6. SHALL contain exactly one [1..1] templateId (CONF:22129) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.6.119" (CONF:22140).
7. SHALL contain exactly one [1..1] id (CONF:22130).
   1. This id SHALL contain exactly one [1..1] @nullFlavor="NA" (CONF:22736).
8. SHALL contain exactly one [1..1] code (CONF:22131).
   1. This code SHALL contain exactly one [1..1] @code="ASSERTION" Assertion (CodeSystem: ActCode 2.16.840.1.113883.5.4 STATIC) (CONF:22132).
9. SHALL contain exactly one [1..1] statusCode (CONF:22133).
   1. This statusCode SHALL contain exactly one [1..1] @code="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14 STATIC) (CONF:22134).
10. SHALL contain exactly one [1..1] value (CONF:22135).
    1. In an infection-type report, a criterion is reported as a code. The value of @xsi:type SHALL be CD and the value of @code SHALL be selected from Value Set 2.16.840.1.114222.4.11.3195 NHSNCriterionOfDiagnosisCode DYNAMIC (CONF:22136).
    2. In an Evidence of Infection (Dialysis) Report, (CONF:22137).
       1. To record a criterion of diagnosis as a code, the value of @xsi:type SHALL be CD and the value of @code SHALL be selected from Value Set 2.16.840.1.114222.4.11.3195 NHSNCriterionOfDiagnosisCode DYNAMIC (CONF:22138).
       2. To record a criterion not included in the NHSNCriterionOfDiagnosisCode value set, the value of @xsi:type SHALL be ST and a text value SHALL be present (CONF:22139).

Table 127: NHSNCriterionOfDiagnosisCode

|  |  |  |  |
| --- | --- | --- | --- |
| Value Set: NHSNCriterionOfDiagnosisCode 2.16.840.1.114222.4.11.3195  Code System: SNOMED CT 2.16.840.1.113883.6.96 or cdcNHSN 2.16.840.1.113883.6.277 | | | |
| Code | Code System | Code System OID | Print Name |
| 1901-8 | cdcNHSN | 2.16.840.1.113883.6.277 | Not cultured |
| 1964-6 | cdcNHSN | 2.16.840.1.113883.6.277 | Allo-SCT with Grade > 3 GI GVHD |
| 1965-3 | cdcNHSN | 2.16.840.1.113883.6.277 | Allo- SCT with diarrhea |
| 165517008 | SNOMED CT | 2.16.840.1.113883.6.96 | Neutropenia |
| 1966-1 | cdcNHSN | 2.16.840.1.113883.6.277 | Positive culture from greater than or equal to two separate tissue or fluid samples from affected joint |
| 1902-6 | cdcNHSN | 2.16.840.1.113883.6.277 | Blood culture not done or no organisms detected in blood |
| 1929-9 | cdcNHSN | 2.16.840.1.113883.6.277 | &gt;=2 positive cultures with &gt;=10^2 col/ml of same uropathogen from nonvoided specimen |
| 1931-5 | cdcNHSN | 2.16.840.1.113883.6.277 | &gt;=2 positive urine cultures with &gt;=10^5 col/cc with no more than 2 organisms |
| 1923-3 | cdcNHSN | 2.16.840.1.113883.6.277 | &gt;=5% BAL cells w/bacteria |
| 1942-2 | cdcNHSN | 2.16.840.1.113883.6.277 | &gt;15 colonies cultured from IV cannula tip using semiquantitative culture method |
| 1927-3 | cdcNHSN | 2.16.840.1.113883.6.277 | 1 positive culture with &gt;=10^5 col/cc with no more than 2 organisms |
| 2403-4 | cdcNHSN | 2.16.840.1.113883.6.277 | 1 positive culture with &gt;=103 CFU/ml and &lt;105 CFU/ml with no more than 2 species of microorganisms |
| 1930-7 | cdcNHSN | 2.16.840.1.113883.6.277 | 1 positive culture with &lt;=10^5 col/ml of a single uropathogen in patient being treated with an effective antimicrobial agent for UTI |
| 1938-0 | cdcNHSN | 2.16.840.1.113883.6.277 | 4-fold rise in L. pneumophila antibody titer |
| 1935-6 | cdcNHSN | 2.16.840.1.113883.6.277 | 4-fold rise in paired sera for pathogen |
| 1944-8 | cdcNHSN | 2.16.840.1.113883.6.277 | Common skin contaminant from &gt;2 blood cultures (see NHSN protocol for definition of skin contaminant) |
| 1937-2 | cdcNHSN | 2.16.840.1.113883.6.277 | L pneumophila serogroup 1 antigens in urine |
| 1939-8 | cdcNHSN | 2.16.840.1.113883.6.277 | Matching positive blood and sputum cultures w/ Candida spp |
| 1941-4 | cdcNHSN | 2.16.840.1.113883.6.277 | Other positive laboratory tests |
| 1955-4 | cdcNHSN | 2.16.840.1.113883.6.277 | Positive blood culture |
| ... | | | |

Figure 41: Criterion of Diagnosis Observation Examples

<observation classCode="OBS" moodCode="EVN" negationInd="false">

<!-- C-CDA Indication templateId -->

<templateId root="2.16.840.1.113883.10.20.22.4.19"/>

<!-- HAI Criteria of Diagnosis Observation templateId -->

<templateId root="2.16.840.1.113883.10.20.5.6.119"/>

<id nullFlavor="NA"/>

<code codeSystem="2.16.840.1.113883.5.4" code=”ASSERTION"/>

<statusCode code="completed"/>

<value xsi:type="CD"

codeSystem="2.16.840.1.113883.6.96"

codeSystemName="SNOMED"

code="255320000"

displayName="Purulent drainage"/>

</observation>

<observation classCode="OBS" moodCode="EVN" negationInd="true">

<!-- C-CDA Indication templateId -->

<templateId root="2.16.840.1.113883.10.20.22.4.19"/>

<!-- HAI Criteria of Diagnosis Observation templateId -->

<templateId root="2.16.840.1.113883.10.20.5.6.119"/>

<id nullFlavor="NA"/>

<code codeSystem="2.16.840.1.113883.5.4" code="ASSERTION"/>

<statusCode code="completed"/>

<value xsi:type="CD"

codeSystem="2.16.840.1.113883.6.96"

codeSystemName="SNOMED"

code="386661006"

displayName="Fever"/>

<!-- In the EOID Report, if there is no applicable

coded value, a text string can be used:

<value xsi:type="ST">An itchy sensation</value>

-->

</observation>

Death Observation

[observation: identifier oid:2.16.840.1.113883.10.20.5.6.120 (closed)]

Table 128: Death Observation Contexts

| Contained By: | Contains: |
| --- | --- |
| [Infection Details Section in a BSI Report](#S_Infection_Details_Section_in_a_BSI_Re) (optional)  [Infection Details Section in a UTI Report](#S_Infection_Details_Section_in_a_UTI_Re) (optional)  [Infection Details Section in an SSI Report (V2)](#S_Infection_Details_Section_in_an_SSI_V2) (optional) | [Infection Contributed to Death Observation](#E_Infection_Contributed_to_Death_Observ) |

This observation records whether the patient died and, if so, whether the infection being recorded contributed to that death.

If the patient died, set the value of @negationInd to false. If the patient did not die, set the value of @negationInd to true.

If the patient died, the Death Observation must also indicate whether the infection contributed to the death using an entryRelationship element containing an Infection Contributed to Death Observation. An inversionInd attribute on this entryRelationship element indicates that it should be interpreted as if the roles of the source and target entries were reversed. Thus, the observation reports whether the infection “supported” (contributed to) the death. The CAUS value does not have the force of “cause of death” on a death certificate; it indicates that the infection is causal or contributory to the death.

Table 129: Death Observation Constraints Overview

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| XPath | Card. | Verb | Data Type | CONF# | Value |
| observation (identifier: oid:2.16.840.1.113883.10.20.5.6.120) | | | | | |
| @classCode | 1..1 | SHALL |  | [19611](#C_19611) | 2.16.840.1.113883.5.6 (HL7ActClass) = OBS |
| @moodCode | 1..1 | SHALL |  | [19612](#C_19612) | 2.16.840.1.113883.5.1001 (ActMood) = EVN |
| @negationInd | 1..1 | SHALL |  | [19613](#C_19613) |  |
| templateId | 1..1 | SHALL |  | [28223](#C_28223) |  |
| @root | 1..1 | SHALL |  | [28224](#C_28224) | 2.16.840.1.113883.10.20.22.4.79 |
| templateId | 1..1 | SHALL |  | [19623](#C_19623) |  |
| @root | 1..1 | SHALL |  | [19624](#C_19624) | 2.16.840.1.113883.10.20.5.6.120 |
| id | 1..1 | SHALL |  | [19625](#C_19625) |  |
| @nullFlavor | 1..1 | SHALL |  | [22739](#C_22739) | NA |
| code | 1..1 | SHALL |  | [19614](#C_19614) |  |
| @code | 1..1 | SHALL |  | [19615](#C_19615) | 2.16.840.1.113883.5.4 (ActCode) = ASSERTION |
| statusCode | 1..1 | SHALL |  | [19616](#C_19616) |  |
| @code | 1..1 | SHALL |  | [19617](#C_19617) | 2.16.840.1.113883.5.14 (ActStatus) = completed |
| effectiveTime | 1..1 | SHALL |  | [19626](#C_19626) |  |
| low | 1..1 | SHALL |  | [19627](#C_19627) |  |
| @nullFlavor | 1..1 | SHALL |  | [22740](#C_22740) | NA |
| value | 1..1 | SHALL | CD | [19618](#C_19618) |  |
| @code | 1..1 | SHALL |  | [19619](#C_19619) | 2.16.840.1.113883.6.96 (SNOMED CT) = 419099009 |
| entryRelationship | 0..1 | MAY |  | [23063](#C_23063) |  |
| @typeCode | 1..1 | SHALL |  | [23064](#C_23064) | 2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = CAUS |
| @inversionInd | 1..1 | SHALL |  | [23065](#C_23065) | true |
| @negationInd | 1..1 | SHALL |  | [23066](#C_23066) |  |
| observation | 1..1 | SHALL |  | [23068](#C_23068) | [Infection Contributed to Death Observation (identifier: oid:2.16.840.1.113883.10.20.5.6.136](#E_Infection_Contributed_to_Death_Observ) |

1. Conforms to Deceased Observation template (identifier: oid:2.16.840.1.113883.10.20.22.4.79).
2. SHALL contain exactly one [1..1] @classCode="OBS" Observation (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 STATIC) (CONF:19611).
3. SHALL contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 STATIC) (CONF:19612).
4. SHALL contain exactly one [1..1] @negationInd (CONF:19613).
5. SHALL contain exactly one [1..1] templateId (CONF:28223) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.4.79" (CONF:28224).
6. SHALL contain exactly one [1..1] templateId (CONF:19623) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.6.120" (CONF:19624).
7. SHALL contain exactly one [1..1] id (CONF:19625).
   1. This id SHALL contain exactly one [1..1] @nullFlavor="NA" (CONF:22739).
8. SHALL contain exactly one [1..1] code (CONF:19614).
   1. This code SHALL contain exactly one [1..1] @code="ASSERTION" Assertion (CodeSystem: ActCode 2.16.840.1.113883.5.4 STATIC) (CONF:19615).
9. SHALL contain exactly one [1..1] statusCode (CONF:19616).
   1. This statusCode SHALL contain exactly one [1..1] @code="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14 STATIC) (CONF:19617).
10. SHALL contain exactly one [1..1] effectiveTime (CONF:19626).
    1. This effectiveTime SHALL contain exactly one [1..1] low (CONF:19627).
       1. This low SHALL contain exactly one [1..1] @nullFlavor="NA" (CONF:22740).
11. SHALL contain exactly one [1..1] value with @xsi:type="CD" (CONF:19618).
    1. This value SHALL contain exactly one [1..1] @code="419099009" Dead (CodeSystem: SNOMED CT 2.16.840.1.113883.6.96 STATIC) (CONF:19619).
12. MAY contain zero or one [0..1] entryRelationship (CONF:23063).
    1. The entryRelationship, if present, SHALL contain exactly one [1..1] @typeCode="CAUS" (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002) (CONF:23064).
    2. The entryRelationship, if present, SHALL contain exactly one [1..1] @inversionInd="true" (CONF:23065).
    3. The entryRelationship, if present, SHALL contain exactly one [1..1] @negationInd (CONF:23066).
       1. If the infection contributed to death, set the value of @negationInd to false. If the infection did not contribute to the death, set the value of @negationInd to true (CONF:23067).
    4. The entryRelationship, if present, SHALL contain exactly one [1..1] [Infection Contributed to Death Observation](#E_Infection_Contributed_to_Death_Observ) (identifier: oid:2.16.840.1.113883.10.20.5.6.136) (CONF:23068).
    5. If the patient died, an entryRelationship element SHALL be present and SHALL contain an Infection Contributed to Death Observation (CONF:23069).

Figure 42: Death Observation Example

<!-- "Dead" is not negated = patient died -->

<observation classCode="OBS" moodCode="EVN" negationInd="false">

<!-- C-CDA Deceased Observation templateId -->

<templateId root="2.16.840.1.113883.10.20.22.4.79"/>

<!-- HAI Death Observation templateId -->

<templateId root="2.16.840.1.113883.10.20.5.6.120"/>

<id nullFlavor="NA"/>

<code codeSystem="2.16.840.1.113883.5.4"

code="ASSERTION"/>

<statusCode code="completed"/>

<effectiveTime>

<low nullFlavor="NA"/>

</effectiveTime>

<value xsi:type="CD"

code="419099009"

codeSystem="2.16.840.1.113883.6.96"

codeSystemName="SNOMED"

displayName="Dead"/>

<!-- The infection did contribute to the death (causality is not negated) -->

<entryRelationship typeCode=”CAUS” inversionInd=”true” negationInd=”false”>

<observation classCode=”OBS” moodCode=”EVN”>

<!-- Infection Contributed to Death Observation templateId -->

<templateId root=”2.16.840.1.113883.10.20.5.6.136”/>

...

</observation>

</entryRelationship>

</observation>

Death Observation in an Evidence of Infection (Dialysis) Report

[observation: identifier oid:2.16.840.1.113883.10.20.5.6.121 (closed)]

Table 130: Death Observation in an Evidence of Infection (Dialysis) Report Contexts

| Contained By: | Contains: |
| --- | --- |
| [Details Section in an Evidence of Infection (Dialysis) Report (V2)](#S_Details_Section_in_an_Evidence_of_V2) (required) |  |

This observation records whether the outpatient died subsequent to the observation of an infection indicator.

When the patient died, set the value of @negationInd to false. When the patient did not die, set the value of @negationInd to true. When it is unknown whether the patient died, set the value of @nullFlavor to NI.

Table 131: Death Observation in an Evidence of Infection (Dialysis) Report Constraints Overview

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| XPath | Card. | Verb | Data Type | CONF# | Value |
| observation (identifier: oid:2.16.840.1.113883.10.20.5.6.121) | | | | | |
| @nullFlavor | 0..1 | MAY |  | [19644](#C_19644) |  |
| @classCode | 1..1 | SHALL |  | [19628](#C_19628) | 2.16.840.1.113883.5.6 (HL7ActClass) = OBS |
| @moodCode | 1..1 | SHALL |  | [19629](#C_19629) | 2.16.840.1.113883.5.1001 (ActMood) = EVN |
| @negationInd | 0..1 | MAY |  | [19645](#C_19645) |  |
| templateId | 1..1 | SHALL |  | [28225](#C_28225) |  |
| @root | 1..1 | SHALL |  | [28226](#C_28226) | 2.16.840.1.113883.10.20.22.4.79 |
| templateId | 1..1 | SHALL |  | [19639](#C_19639) |  |
| @root | 1..1 | SHALL |  | [19640](#C_19640) | 2.16.840.1.113883.10.20.5.6.121 |
| id | 1..1 | SHALL |  | [19641](#C_19641) |  |
| @nullFlavor | 1..1 | SHALL |  | [22742](#C_22742) | NA |
| code | 1..1 | SHALL |  | [19630](#C_19630) |  |
| @code | 1..1 | SHALL |  | [19631](#C_19631) | 2.16.840.1.113883.5.4 (ActCode) = ASSERTION |
| statusCode | 1..1 | SHALL |  | [19632](#C_19632) |  |
| @code | 1..1 | SHALL |  | [19633](#C_19633) | 2.16.840.1.113883.5.14 (ActStatus) = completed |
| effectiveTime | 1..1 | SHALL |  | [19642](#C_19642) |  |
| low | 1..1 | SHALL |  | [19643](#C_19643) |  |
| @nullFlavor | 1..1 | SHALL |  | [22743](#C_22743) | NA |
| value | 1..1 | SHALL | CD | [19634](#C_19634) |  |
| @code | 1..1 | SHALL |  | [19635](#C_19635) | 2.16.840.1.113883.6.96 (SNOMED CT) = 419099009 |

1. Conforms to Deceased Observation template (identifier: oid:2.16.840.1.113883.10.20.22.4.79).
2. MAY contain zero or one [0..1] @nullFlavor (CONF:19644).
   1. If @negationInd is present then @nullFlavor SHALL NOT contain a value (CONF:19646).
3. SHALL contain exactly one [1..1] @classCode="OBS" Observation (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 STATIC) (CONF:19628).
4. SHALL contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 STATIC) (CONF:19629).
5. MAY contain zero or one [0..1] @negationInd (CONF:19645).
   1. If @nullFlavor is present then @negationInd SHALL NOT contain a value (CONF:19647).
6. SHALL contain exactly one [1..1] templateId (CONF:28225) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.4.79" (CONF:28226).
7. SHALL contain exactly one [1..1] templateId (CONF:19639) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.6.121" (CONF:19640).
8. SHALL contain exactly one [1..1] id (CONF:19641).
   1. This id SHALL contain exactly one [1..1] @nullFlavor="NA" (CONF:22742).
9. SHALL contain exactly one [1..1] code (CONF:19630).
   1. This code SHALL contain exactly one [1..1] @code="ASSERTION" Assertion (CodeSystem: ActCode 2.16.840.1.113883.5.4 STATIC) (CONF:19631).
10. SHALL contain exactly one [1..1] statusCode (CONF:19632).
    1. This statusCode SHALL contain exactly one [1..1] @code="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14 STATIC) (CONF:19633).
11. SHALL contain exactly one [1..1] effectiveTime (CONF:19642).
    1. This effectiveTime SHALL contain exactly one [1..1] low (CONF:19643).
       1. This low SHALL contain exactly one [1..1] @nullFlavor="NA" (CONF:22743).
12. SHALL contain exactly one [1..1] value with @xsi:type="CD" (CONF:19634).
    1. This value SHALL contain exactly one [1..1] @code="419099009" Dead (CodeSystem: SNOMED CT 2.16.840.1.113883.6.96 STATIC) (CONF:19635).
13. SHALL contain either @nullFlavor or @negationInd, but SHALL NOT contain both (CONF:19648).

Figure 43: Death Observation in an EOID Report Example

<!-- There is no information about whether the patient has died -->

<observation classCode="OBS" moodCode="EVN" nullFlavor="NI">

<!-- C-CDA Deceased Observation templateId -->

<templateId root="2.16.840.1.113883.10.20.22.4.79"/>

<!-- HAI Death Observation in an Evidence of Infection (Dialysis) Report -->

<templateId root="2.16.840.1.113883.10.20.5.6.121"/>

<id nullFlavor="NA"/>

<code codeSystem="2.16.840.1.113883.5.4"

code="ASSERTION"/>

<statusCode code="completed"/>

<effectiveTime>

<low nullFlavor="NA"/>

</effectiveTime>

<value xsi:type="CD"

code="419099009"

codeSystem="2.16.840.1.113883.6.96"

codeSystemName="SNOMED"

displayName="Dead"/>

</observation>

Device Insertion Time and Location Procedure

[procedure: identifier oid:2.16.840.1.113883.10.20.5.6.122 (closed)]

Table 132: Device Insertion Time and Location Procedure Contexts

| Contained By: | Contains: |
| --- | --- |
| [Infection Risk Factors Observation](#E_Infection_Risk_Factors_Observation) (optional)  [Urinary Catheter Observation](#E_Urinary_Catheter_Observation) (optional) |  |

This clinical statement records the location of the patient and the time when the device was inserted.

Table 133: Device Insertion Time and Location Procedure Constraints Overview

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| XPath | Card. | Verb | Data Type | CONF# | Value |
| procedure (identifier: oid:2.16.840.1.113883.10.20.5.6.122) | | | | | |
| @classCode | 1..1 | SHALL |  | [21041](#C_21041) | PROC |
| @moodCode | 1..1 | SHALL |  | [21042](#C_21042) | EVN |
| templateId | 1..1 | SHALL |  | [28227](#C_28227) |  |
| @root | 1..1 | SHALL |  | [28228](#C_28228) | 2.16.840.1.113883.10.20.22.4.14 |
| templateId | 1..1 | SHALL |  | [21063](#C_21063) |  |
| @root | 1..1 | SHALL |  | [21064](#C_21064) | 2.16.840.1.113883.10.20.5.6.122 |
| id | 1..1 | SHALL |  | [21065](#C_21065) |  |
| @nullFlavor | 1..1 | SHALL |  | [22744](#C_22744) | 2.16.840.1.113883.5.1008 (HL7NullFlavor) = NA |
| code | 1..1 | SHALL |  | [21044](#C_21044) |  |
| @code | 1..1 | SHALL |  | [21066](#C_21066) | 71861002 |
| @codeSystem | 1..1 | SHALL |  | [28103](#C_28103) | 2.16.840.1.113883.6.96 (SNOMED CT) = 2.16.840.1.113883.6.96 |
| statusCode | 1..1 | SHALL |  | [21046](#C_21046) |  |
| @code | 1..1 | SHALL |  | [28106](#C_28106) | 2.16.840.1.113883.5.14 (ActStatus) = completed |
| effectiveTime | 1..1 | SHALL |  | [21047](#C_21047) |  |
| low | 1..1 | SHALL |  | [21048](#C_21048) |  |
| participant | 0..\* | MAY |  | [21049](#C_21049) |  |
| @typeCode | 1..1 | SHALL |  | [21050](#C_21050) | LOC |
| participantRole | 1..1 | SHALL |  | [21051](#C_21051) |  |
| @classCode | 1..1 | SHALL |  | [21052](#C_21052) | SDLOC |
| id | 1..1 | SHALL |  | [21053](#C_21053) |  |
| @root | 1..1 | SHALL |  | [21054](#C_21054) |  |
| @extension | 1..1 | SHALL |  | [21056](#C_21056) |  |
| playingEntity | 1..1 | SHALL |  | [21057](#C_21057) |  |
| @classCode | 1..1 | SHALL |  | [21058](#C_21058) | 2.16.840.1.113883.5.41 (EntityClass) = PLC |
| code | 1..1 | SHALL |  | [21059](#C_21059) | 2.16.840.1.113883.13.19 (NHSNHealthcareServiceLocationCode) |

1. Conforms to Procedure Activity Procedure template (identifier: oid:2.16.840.1.113883.10.20.22.4.14).
2. SHALL contain exactly one [1..1] @classCode="PROC" (CONF:21041).
3. SHALL contain exactly one [1..1] @moodCode="EVN" (CONF:21042).
4. SHALL contain exactly one [1..1] templateId (CONF:28227) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.4.14" (CONF:28228).
5. SHALL contain exactly one [1..1] templateId (CONF:21063) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.6.122" (CONF:21064).
6. SHALL contain exactly one [1..1] id (CONF:21065).
   1. This id SHALL contain exactly one [1..1] @nullFlavor="NA" (CodeSystem: HL7NullFlavor 2.16.840.1.113883.5.1008) (CONF:22744).
7. SHALL contain exactly one [1..1] code (CONF:21044).
   1. This code SHALL contain exactly one [1..1] @code="71861002" Insertion procedure (CONF:21066).
   2. This code SHALL contain exactly one [1..1] @codeSystem="2.16.840.1.113883.6.96" (CodeSystem: SNOMED CT 2.16.840.1.113883.6.96) (CONF:28103).
8. SHALL contain exactly one [1..1] statusCode (CONF:21046).
   1. This statusCode SHALL contain exactly one [1..1] @code="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14) (CONF:28106).
9. SHALL contain exactly one [1..1] effectiveTime (CONF:21047).
   1. This effectiveTime SHALL contain exactly one [1..1] low (CONF:21048).
10. MAY contain zero or more [0..\*] participant (CONF:21049).
    1. The participant, if present, SHALL contain exactly one [1..1] @typeCode="LOC" (CONF:21050).
    2. The participant, if present, SHALL contain exactly one [1..1] participantRole (CONF:21051).
       1. This participantRole SHALL contain exactly one [1..1] @classCode="SDLOC" (CONF:21052).
       2. This participantRole SHALL contain exactly one [1..1] id (CONF:21053).
          1. This id SHALL contain exactly one [1..1] @root (CONF:21054).
             1. This id/@root SHALL contain the facility identifier (CONF:21055).
          2. This id SHALL contain exactly one [1..1] @extension (CONF:21056).
       3. This participantRole SHALL contain exactly one [1..1] playingEntity (CONF:21057).
          1. This playingEntity SHALL contain exactly one [1..1] @classCode="PLC" (CodeSystem: EntityClass 2.16.840.1.113883.5.41 STATIC) (CONF:21058).
          2. This playingEntity SHALL contain exactly one [1..1] code, which SHALL be selected from ValueSet [NHSNHealthcareServiceLocationCode](#NHSNHealthcareServiceLocationCode) 2.16.840.1.113883.13.19 DYNAMIC (CONF:21059).

Figure 44: Device Insertion Time and Location Procedure Example

<!-- Device Insertion Time and Location Procedure -->

<procedure classCode="PROC" moodCode="EVN">

<!-- C-CDA Procedure Activity Procedure templateId -->

<templateId root="2.16.840.1.113883.10.20.22.4.14" />

<!-- HAI Device Insertion Time and Location Procedure templateId -->

<templateId root="2.16.840.1.113883.10.20.5.6.122" />

<id nullFlavor="NA" />

<code code="71861002"

displayName="Insertion procedure"

codeSystem="2.16.840.1.113883.6.96"

codeSystemName="SNOMED CT" />

<statusCode code="completed" />

<effectiveTime>

<low value="20120808" />

</effectiveTime>

<participant typeCode="LOC">

<participantRole classCode="SDLOC">

<!-- the ID of the location-->

<id root="2.16.840.1.114222.4.3.2.11" extension="123456" />

<playingEntity classCode="PLC">

<code codeSystem="2.16.840.1.113883.6.259"

codeSystemName="HL7 Healthcare Service Location Code"

code="1029-8"

displayName="Medical/Surgical Critical Care" />

</playingEntity>

</participantRole>

</participant>

</procedure>

Diabetes Mellitus Observation

[observation: identifier oid:2.16.840.1.113883.10.20.5.6.123 (closed)]

Table 134: Diabetes Mellitus Observation Contexts

| Contained By: | Contains: |
| --- | --- |
| [Infection Risk Factors Section in a Procedure Report](#S_Infection_Risk_Factors_Section_in_a_P) (required) |  |

This observation records whether the person had diabetes mellitus.

If the person did have diabetes, set the value of @negationInd to false. If the person did not have diabetes mellitus, set the value of @negationInd to true.

Table 135: Diabetes Mellitus Observation Constraints Overview

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| XPath | Card. | Verb | Data Type | CONF# | Value |
| observation (identifier: oid:2.16.840.1.113883.10.20.5.6.123) | | | | | |
| @classCode | 1..1 | SHALL |  | [21000](#C_21000) | 2.16.840.1.113883.5.6 (HL7ActClass) = OBS |
| @moodCode | 1..1 | SHALL |  | [21001](#C_21001) | 2.16.840.1.113883.5.1001 (ActMood) = EVN |
| @negationInd | 1..1 | SHALL |  | [21002](#C_21002) |  |
| templateId | 1..1 | SHALL |  | [28229](#C_28229) |  |
| @root | 1..1 | SHALL |  | [28230](#C_28230) | 2.16.840.1.113883.10.20.22.4.4 |
| templateId | 1..1 | SHALL |  | [21005](#C_21005) |  |
| @root | 1..1 | SHALL |  | [21006](#C_21006) | 2.16.840.1.113883.10.20.5.6.123 |
| id | 1..1 | SHALL |  | [21007](#C_21007) |  |
| @nullFlavor | 1..1 | SHALL |  | [22745](#C_22745) | NA |
| code | 1..1 | SHALL |  | [21008](#C_21008) |  |
| @code | 1..1 | SHALL |  | [21009](#C_21009) | 2.16.840.1.113883.5.4 (ActCode) = ASSERTION |
| statusCode | 1..1 | SHALL |  | [21010](#C_21010) |  |
| @code | 1..1 | SHALL |  | [21011](#C_21011) | 2.16.840.1.113883.5.14 (ActStatus) = completed |
| value | 1..1 | SHALL | CD | [21012](#C_21012) |  |
| @code | 1..1 | SHALL | CS | [21013](#C_21013) | 2.16.840.1.113883.6.96 (SNOMED CT) = 73211009 |

1. Conforms to Problem Observation template (identifier: oid:2.16.840.1.113883.10.20.22.4.4).
2. SHALL contain exactly one [1..1] @classCode="OBS" Observation (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 STATIC) (CONF:21000).
3. SHALL contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 STATIC) (<CONF:21001>).

If the person did have diabetes, set the value of @negationInd to false. If the person did not have diabetes mellitus, set the value of @negationInd to true.

1. SHALL contain exactly one [1..1] @negationInd (CONF:21002).
2. SHALL contain exactly one [1..1] templateId (CONF:28229) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.4.4" (CONF:28230).
3. SHALL contain exactly one [1..1] templateId (CONF:21005) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.6.123" (CONF:21006).
4. SHALL contain exactly one [1..1] id (CONF:21007).
   1. This id SHALL contain exactly one [1..1] @nullFlavor="NA" (CONF:22745).
5. SHALL contain exactly one [1..1] code (CONF:21008).
   1. This code SHALL contain exactly one [1..1] @code="ASSERTION" Assertion (CodeSystem: ActCode 2.16.840.1.113883.5.4 STATIC) (CONF:21009).
6. SHALL contain exactly one [1..1] statusCode (CONF:21010).
   1. This statusCode SHALL contain exactly one [1..1] @code="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14 STATIC) (CONF:21011).
7. SHALL contain exactly one [1..1] value with @xsi:type="CD" (CONF:21012).
   1. This value SHALL contain exactly one [1..1] @code="73211009 " Diabetes mellitus (CodeSystem: SNOMED CT 2.16.840.1.113883.6.96) (CONF:21013).

Figure 45: Diabetes Mellitus Observation Example

<observation classCode="OBS" moodCode="EVN" negationInd="false">

<!-- C-CDA Problem Observation templateId -->

<templateId root="2.16.840.1.113883.10.20.22.4.4"/>

<!-- HAI Diabetes Mellitus Observation templateId -->

<templateId root="2.16.840.1.113883.10.20.5.6.123"/>

<id nullFlavor="NA"/>

<code code="ASSERTION"

codeSystem="2.16.840.1.113883.5.4"/>

<statusCode code="completed"/>

<value xsi:type="CD"

code="73211009"

codeSystem="2.16.840.1.113883.6.96"

codeSystemName="SNOMED"

displayName="Diabetes mellitus"/>

</observation>

Dialysis Clinic Admission Clinical Statement

[encounter: identifier oid:2.16.840.1.113883.10.20.5.6.124 (closed)]

Table 136: Dialysis Clinic Admission Clinical Statement Contexts

| Contained By: | Contains: |
| --- | --- |
| [Details Section in an Evidence of Infection (Dialysis) Report (V2)](#S_Details_Section_in_an_Evidence_of_V2) (required) |  |

The Dialysis Clinic Admisssion Clinical Statement records whether the patient was (re)admitted to the dialysis facility on the same day as, or after, the dialysis event. The infection (dialysis event) observation is specified in the entryRelationship/observation/value element.

If the infection (dialysis event) began on or after the date the patient was admitted, set the value of entryRelationship/@inversionInd to TRUE. If the infection (dialysis event) began before the date the patient was admitted, set the value of entryRelationship/@inversionInd to FALSE.

Table 137: Dialysis Clinic Admission Clinical Statement Constraints Overview

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| XPath | Card. | Verb | Data Type | CONF# | Value |
| encounter (identifier: oid:2.16.840.1.113883.10.20.5.6.124) | | | | | |
| @classCode | 1..1 | SHALL |  | [23263](#C_23263) | 2.16.840.1.113883.5.6 (HL7ActClass) = ENC |
| @moodCode | 1..1 | SHALL |  | [23264](#C_23264) | 2.16.840.1.113883.5.1001 (ActMood) = EVN |
| templateId | 1..1 | SHALL |  | [23265](#C_23265) |  |
| @root | 1..1 | SHALL |  | [23266](#C_23266) | 2.16.840.1.113883.10.20.5.6.124 |
| id | 1..1 | SHALL |  | [23267](#C_23267) |  |
| entryRelationship | 1..1 | SHALL |  | [23269](#C_23269) |  |
| @typeCode | 1..1 | SHALL |  | [23272](#C_23272) | SAS |
| @inversionInd | 1..1 | SHALL |  | [23273](#C_23273) |  |
| observation | 1..1 | SHALL |  | [23275](#C_23275) |  |
| @classCode | 1..1 | SHALL |  | [23276](#C_23276) | 2.16.840.1.113883.5.6 (HL7ActClass) = OBS |
| @moodCode | 1..1 | SHALL |  | [23277](#C_23277) | 2.16.840.1.113883.5.1001 (ActMood) = EVN |
| id | 1..1 | SHALL |  | [23278](#C_23278) |  |
| @nullFlavor | 1..1 | SHALL |  | [27747](#C_27747) | 2.16.840.1.113883.5.1008 (HL7NullFlavor) = NA |
| code | 1..1 | SHALL |  | [23280](#C_23280) |  |
| @code | 1..1 | SHALL |  | [23281](#C_23281) | ASSERTION |
| @codeSystem | 1..1 | SHALL |  | [23282](#C_23282) | 2.16.840.1.113883.5.4 (ActCode) = 2.16.840.1.113883.5.4 |
| statusCode | 1..1 | SHALL |  | [23283](#C_23283) |  |
| @code | 1..1 | SHALL |  | [23284](#C_23284) | completed |
| value | 1..1 | SHALL | CD | [23285](#C_23285) |  |
| @code | 1..1 | SHALL |  | [27748](#C_27748) | 40733004 |
| @codeSystem | 1..1 | SHALL |  | [27749](#C_27749) | 2.16.840.1.113883.6.96 |

1. SHALL contain exactly one [1..1] @classCode="ENC" (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 STATIC) (CONF:23263).
2. SHALL contain exactly one [1..1] @moodCode="EVN" (CodeSystem: ActMood 2.16.840.1.113883.5.1001 STATIC) (CONF:23264).
3. SHALL contain exactly one [1..1] templateId (CONF:23265) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.6.124" (CONF:23266).
4. SHALL contain exactly one [1..1] id (CONF:23267).
   1. This is the id of the encompassing encounter (CONF:23268).
5. SHALL contain exactly one [1..1] entryRelationship (CONF:23269).
   1. This entryRelationship SHALL contain exactly one [1..1] @typeCode="SAS" (CONF:23272).
   2. This entryRelationship SHALL contain exactly one [1..1] @inversionInd (CONF:23273).
      1. If the infection (dialysis event) began on or after the date the patient was admitted, set the value of @inversionInd to TRUE. If the infection (dialysis event) began before the date the patient was admitted, set the value of @inversionInd to FALSE (CONF:23274).
   3. This entryRelationship SHALL contain exactly one [1..1] observation (CONF:23275).
      1. This observation SHALL contain exactly one [1..1] @classCode="OBS" (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6) (CONF:23276).
      2. This observation SHALL contain exactly one [1..1] @moodCode="EVN" (CodeSystem: ActMood 2.16.840.1.113883.5.1001) (CONF:23277).
      3. This observation SHALL contain exactly one [1..1] id (CONF:23278).
         1. This id SHALL contain exactly one [1..1] @nullFlavor="NA" (CodeSystem: HL7NullFlavor 2.16.840.1.113883.5.1008) (CONF:27747).
      4. This observation SHALL contain exactly one [1..1] code (CONF:23280).
         1. This code SHALL contain exactly one [1..1] @code="ASSERTION" (CONF:23281).
         2. This code SHALL contain exactly one [1..1] @codeSystem="2.16.840.1.113883.5.4" (CodeSystem: ActCode 2.16.840.1.113883.5.4) (CONF:23282).
      5. This observation SHALL contain exactly one [1..1] statusCode (CONF:23283).
         1. This statusCode SHALL contain exactly one [1..1] @code="completed" (CONF:23284).
      6. This observation SHALL contain exactly one [1..1] value with @xsi:type="CD" (CONF:23285).
         1. This value SHALL contain exactly one [1..1] @code="40733004" Infection (CONF:27748).
         2. This value SHALL contain exactly one [1..1] @codeSystem="2.16.840.1.113883.6.96" (CONF:27749).

Figure 46: Dialysis Clinic Admission Clinical Statement Example

<encounter classCode="ENC" moodCode="EVN">

<templateId root="2.16.840.1.113883.10.20.5.6.124" />

<!-- the id of the encompassingEncounter -->

<!-- Facility-generated Event/Procedure number -->

<id root="2.16.840.1.113883.3.117.1.1.5.2.1.1.3" extension="31" />

<entryRelationship typeCode="SAS" inversionInd="true">

<observation classCode="OBS" moodCode="EVN">

<templateId root="2.16.840.1.113883.10.20.5.6.102"/>

<id nullFlavor="NA"/>

<code code="ASSERTION"

codeSystem="2.16.840.1.113883.5.4"/>

<statusCode code="completed"/>

<value xsi:type="CD"

code="40733004"

codeSystem="2.16.840.1.113883.6.96"

displayName="Infection" />

</entryRelationship>

</encounter>

Dialysis Patient Observation

[observation: identifier oid:2.16.840.1.113883.10.20.5.6.125 (closed)]

Table 138: Dialysis Patient Observation Contexts

| Contained By: | Contains: |
| --- | --- |
| [Risk Factors Section in an Evidence of Infection (Dialysis) Report](#S_Risk_Factors_Section_in_an_Evidence_o) (required) | [Transient Patient Observation](#E_Transient_Patient_Observation) |

This observation records that the patient is a maintenance hemodialysis patient. It is used in the Evidence of Infection (Dialysis) Report.

These reports are submitted for outpatients for whom an infection indicator is observed. The encounter is recorded in the CDA header as being an outpatient encounter

Table 139: Dialysis Patient Observation Constraints Overview

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| XPath | Card. | Verb | Data Type | CONF# | Value |
| observation (identifier: oid:2.16.840.1.113883.10.20.5.6.125) | | | | | |
| @classCode | 1..1 | SHALL |  | [21747](#C_21747) | 2.16.840.1.113883.5.6 (HL7ActClass) = OBS |
| @moodCode | 1..1 | SHALL |  | [21748](#C_21748) | 2.16.840.1.113883.5.1001 (ActMood) = EVN |
| @negationInd | 1..1 | SHALL |  | [21749](#C_21749) | false |
| templateId | 1..1 | SHALL |  | [28231](#C_28231) |  |
| @root | 1..1 | SHALL |  | [28232](#C_28232) | 2.16.840.1.113883.10.20.22.4.4 |
| templateId | 1..1 | SHALL |  | [21752](#C_21752) |  |
| @root | 1..1 | SHALL |  | [21753](#C_21753) | 2.16.840.1.113883.10.20.5.6.125 |
| id | 1..1 | SHALL |  | [21754](#C_21754) |  |
| @nullFlavor | 1..1 | SHALL |  | [22747](#C_22747) | NA |
| code | 1..1 | SHALL |  | [21755](#C_21755) |  |
| @code | 1..1 | SHALL |  | [21756](#C_21756) | 2.16.840.1.113883.5.4 (ActCode) = ASSERTION |
| statusCode | 1..1 | SHALL |  | [21757](#C_21757) |  |
| @code | 1..1 | SHALL |  | [21758](#C_21758) | 2.16.840.1.113883.5.14 (ActStatus) = completed |
| value | 1..1 | SHALL | CD | [21759](#C_21759) |  |
| @code | 1..1 | SHALL |  | [21760](#C_21760) | 2.16.840.1.113883.6.96 (SNOMED CT) = 236435004 |
| entryRelationship | 1..1 | SHALL |  | [21761](#C_21761) |  |
| @typeCode | 1..1 | SHALL |  | [21762](#C_21762) | 2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = COMP |
| observation | 1..1 | SHALL |  | [21763](#C_21763) | [Transient Patient Observation (identifier: oid:2.16.840.1.113883.10.20.5.6.169](#E_Transient_Patient_Observation) |

1. Conforms to Problem Observation template (identifier: oid:2.16.840.1.113883.10.20.22.4.4).
2. SHALL contain exactly one [1..1] @classCode="OBS" Observation (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 STATIC) (CONF:21747).
3. SHALL contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 STATIC) (CONF:21748).
4. SHALL contain exactly one [1..1] @negationInd="false" (CONF:21749).
5. SHALL contain exactly one [1..1] templateId (CONF:28231) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.4.4" (CONF:28232).
6. SHALL contain exactly one [1..1] templateId (CONF:21752) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.6.125" (CONF:21753).
7. SHALL contain exactly one [1..1] id (CONF:21754).
   1. This id SHALL contain exactly one [1..1] @nullFlavor="NA" (CONF:22747).
8. SHALL contain exactly one [1..1] code (CONF:21755).
   1. This code SHALL contain exactly one [1..1] @code="ASSERTION" Assertion (CodeSystem: ActCode 2.16.840.1.113883.5.4 STATIC) (CONF:21756).
9. SHALL contain exactly one [1..1] statusCode (CONF:21757).
   1. This statusCode SHALL contain exactly one [1..1] @code="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14 STATIC) (CONF:21758).
10. SHALL contain exactly one [1..1] value with @xsi:type="CD" (CONF:21759).
    1. This value SHALL contain exactly one [1..1] @code="236435004" End-stage renal failure, on dialysis (CodeSystem: SNOMED CT 2.16.840.1.113883.6.96 STATIC) (CONF:21760).
11. SHALL contain exactly one [1..1] entryRelationship (CONF:21761) such that it
    1. SHALL contain exactly one [1..1] @typeCode="COMP" Has component (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002 STATIC) (CONF:21762).
    2. SHALL contain exactly one [1..1] [Transient Patient Observation](#E_Transient_Patient_Observation) (identifier: oid:2.16.840.1.113883.10.20.5.6.169) (CONF:21763).

Figure 47: Dialysis Patient Observation Example

<observation classCode="OBS" moodCode="EVN" negationInd="false">

<!-- C-CDA Problem Observation -->

<templateId root="2.16.840.1.113883.10.20.22.4.4"/>

<!-- HAI Dialysis Patient Observation -->

<templateId root="2.16.840.1.113883.10.20.5.6.125"/>

<id nullFlavor="NA"/>

<code code="ASSERTION"

codeSystem="2.16.840.1.113883.5.4"/>

<statusCode code="completed"/>

<value xsi:type="CD"

codeSystem="2.16.840.1.113883.6.96"

codeSystemName="SNOMED CT"

code="236435004"

displayName="End-stage renal failure, on dialysis"/>

<!-- Transient Patient Observation -->

<entryRelationship typeCode="COMP">

<observation classCode="OBS" moodCode="EVN" negationInd="false">

<!-- C-CDA Problem Observation templateId -->

<templateId root="2.16.840.1.113883.10.20.22.4.4"/>

<!-- HAI Transient Patient Observation templateId-->

<templateId root="2.16.840.1.113883.10.20.5.6.169 "/>

...

</observation>

</entryRelationship>

</observation>

Drug-Susceptibility Test Observation

[observation: identifier oid:2.16.840.1.113883.10.20.5.6.126 (closed)]

Table 140: Drug-Susceptibility Test Observation Contexts

| Contained By: | Contains: |
| --- | --- |
| [Findings Organizer](#E_Findings_Organizer) (optional) |  |

This observation uses two codes: one to identify the drug and the other to record the pathogen’s susceptibility to it. A LOINC code represents a methodless isolate drug-susceptibility test; an HL7 ObservationInterpretation code represents the susceptibility finding.

Table 141: Drug-Susceptibility Test Observation Constraints Overview

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| XPath | Card. | Verb | Data Type | CONF# | Value |
| observation (identifier: oid:2.16.840.1.113883.10.20.5.6.126) | | | | | |
| @classCode | 1..1 | SHALL |  | [21014](#C_21014) | 2.16.840.1.113883.5.6 (HL7ActClass) = OBS |
| @moodCode | 1..1 | SHALL |  | [21015](#C_21015) | 2.16.840.1.113883.5.1001 (ActMood) = EVN |
| templateId | 1..1 | SHALL |  | [28233](#C_28233) |  |
| @root | 1..1 | SHALL |  | [28234](#C_28234) | 2.16.840.1.113883.10.20.22.4.2 |
| templateId | 1..1 | SHALL |  | [21018](#C_21018) |  |
| @root | 1..1 | SHALL |  | [21019](#C_21019) | 2.16.840.1.113883.10.20.5.6.126 |
| id | 1..1 | SHALL |  | [21020](#C_21020) |  |
| @nullFlavor | 1..1 | SHALL |  | [22748](#C_22748) | NA |
| code | 1..1 | SHALL |  | [21021](#C_21021) | 2.16.840.1.113883.13.15 (NHSNDrugSusceptibilityTestsCode) |
| statusCode | 1..1 | SHALL |  | [21023](#C_21023) |  |
| @code | 1..1 | SHALL |  | [21024](#C_21024) | 2.16.840.1.113883.5.14 (ActStatus) = completed |
| effectiveTime | 1..1 | SHALL |  | [21025](#C_21025) |  |
| @nullFlavor | 1..1 | SHALL |  | [22749](#C_22749) | NA |
| interpretationCode | 1..1 | SHALL |  | [21026](#C_21026) |  |

1. Conforms to Result Observation template (identifier: oid:2.16.840.1.113883.10.20.22.4.2).
2. SHALL contain exactly one [1..1] @classCode="OBS" Observation (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 STATIC) (CONF:21014).
3. SHALL contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 STATIC) (CONF:21015).
4. SHALL contain exactly one [1..1] templateId (CONF:28233) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.4.2" (CONF:28234).
5. SHALL contain exactly one [1..1] templateId (CONF:21018) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.6.126" (CONF:21019).
6. SHALL contain exactly one [1..1] id (CONF:21020).
   1. This id SHALL contain exactly one [1..1] @nullFlavor="NA" (CONF:22748).
7. SHALL contain exactly one [1..1] code, which SHALL be selected from ValueSet [NHSNDrugSusceptibilityTestsCode](#NHSNDrugSusceptibilityTestsCode) 2.16.840.1.113883.13.15 DYNAMIC (CONF:21021).
8. SHALL contain exactly one [1..1] statusCode (CONF:21023).
   1. This statusCode SHALL contain exactly one [1..1] @code="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14 STATIC) (CONF:21024).
9. SHALL contain exactly one [1..1] effectiveTime (CONF:21025).
   1. This effectiveTime SHALL contain exactly one [1..1] @nullFlavor="NA" (CONF:22749).
10. SHALL contain exactly one [1..1] interpretationCode (CONF:21026).
    1. If the interpretation result is known, the value of interpretationCode/@code SHALL be selected from Value Set 2.16.840.1.113883.13.13 NHSNDrugSusceptibilityFindingCode STATIC 20080130. If the drug was not tested, the value of @nullFlavor SHALL be NASK (CONF:21027).

Table 142: NHSNDrugSusceptibilityTestsCode

|  |  |  |  |
| --- | --- | --- | --- |
| Value Set: NHSNDrugSusceptibilityTestsCode 2.16.840.1.113883.13.15  Code System: LOINC 2.16.840.1.113883.6.1 or cdcNHSN 2.16.840.1.113883.6.277 | | | |
| Code | Code System | Code System OID | Print Name |
| 18855-7 | LOINC | 2.16.840.1.113883.6.1 | 5-fluorocytosine Susc Islt |
| 18860-7 | LOINC | 2.16.840.1.113883.6.1 | Amikacin Susc Islt |
| 18862-3 | LOINC | 2.16.840.1.113883.6.1 | Amoxicillin+Clav Susc Islt |
| 18864-9 | LOINC | 2.16.840.1.113883.6.1 | Ampicillin Susc Islt |
| 18865-6 | LOINC | 2.16.840.1.113883.6.1 | Ampicillin+Sulbac Susc Islt |
| 57095-2 | LOINC | 2.16.840.1.113883.6.1 | Anidulafungin Susc Islt |
| 18866-4 | LOINC | 2.16.840.1.113883.6.1 | Azithromycin Susc Islt |
| 18868-0 | LOINC | 2.16.840.1.113883.6.1 | Aztreonam Susc Islt |
| 32378-2 | LOINC | 2.16.840.1.113883.6.1 | Caspofungin Susc Islt |
| 18878-9 | LOINC | 2.16.840.1.113883.6.1 | Cefazolin Susc Islt |
| 18879-7 | LOINC | 2.16.840.1.113883.6.1 | Cefepime Susc Islt |
| 18886-2 | LOINC | 2.16.840.1.113883.6.1 | Cefotaxime Susc Islt |
| 18887-0 | LOINC | 2.16.840.1.113883.6.1 | Cefotetan Susc Islt |
| 18888-8 | LOINC | 2.16.840.1.113883.6.1 | Cefoxitin Susc Islt |
| 18893-8 | LOINC | 2.16.840.1.113883.6.1 | Ceftazidime Susc Islt |
| 18895-3 | LOINC | 2.16.840.1.113883.6.1 | Ceftriaxone Susc Islt |
| 35783-0 | LOINC | 2.16.840.1.113883.6.1 | Cefuroxime Oral Susc Islt |
| 18900-1 | LOINC | 2.16.840.1.113883.6.1 | Cephalothin Susc Islt |
| 18903-5 | LOINC | 2.16.840.1.113883.6.1 | Chloramphen Susc Islt |
| 18906-8 | LOINC | 2.16.840.1.113883.6.1 | Ciprofloxacin Susc Islt |
| ... | | | |

Figure 48: Drug-Susceptibility Test Observation Example

<observation classCode="OBS" moodCode="EVN">

<!-- C-CDA Result Observation templateId -->

<templateId root="2.16.840.1.113883.10.20.22.4.2" />

<!-- HAI Drug-susceptibility Test Observation templateId -->

<templateId root="2.16.840.1.113883.10.20.5.6.126" />

<id nullFlavor="NA" />

<code codeSystem="2.16.840.1.113883.6.1"

codeSystemName="LOINC"

code="19000-9"

displayName="Vancomycin Susc Islt" />

<statusCode code="completed" />

<effectiveTime nullFlavor="NA" />

<interpretationCode codeSystem="2.16.840.1.113883.5.83"

codeSystemName="HL7 Observation Interpretation"

code="S" displayName="susceptible" />

</observation>

Duration of Labor Observation

[observation: identifier oid:2.16.840.1.113883.10.20.5.6.127 (closed)]

Table 143: Duration of Labor Observation Contexts

| Contained By: | Contains: |
| --- | --- |
| [Infection Risk Factors Section in a Procedure Report](#S_Infection_Risk_Factors_Section_in_a_P) (optional) |  |

This observation records the duration of labor in value/width. NHSN protocol requires that the duration be expressed as an integer.

Table 144: Duration of Labor Observation Constraints Overview

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| XPath | Card. | Verb | Data Type | CONF# | Value |
| observation (identifier: oid:2.16.840.1.113883.10.20.5.6.127) | | | | | |
| @classCode | 1..1 | SHALL |  | [22208](#C_22208) | 2.16.840.1.113883.5.6 (HL7ActClass) = OBS |
| @moodCode | 1..1 | SHALL |  | [22209](#C_22209) | 2.16.840.1.113883.5.1001 (ActMood) = EVN |
| templateId | 1..1 | SHALL |  | [22210](#C_22210) |  |
| @root | 1..1 | SHALL |  | [22211](#C_22211) | 2.16.840.1.113883.10.20.5.6.127 |
| code | 1..1 | SHALL |  | [22212](#C_22212) |  |
| @code | 1..1 | SHALL |  | [22213](#C_22213) | 2.16.840.1.113883.6.96 (SNOMED CT) = 289248003 |
| statusCode | 1..1 | SHALL |  | [22214](#C_22214) |  |
| @code | 1..1 | SHALL |  | [22215](#C_22215) | 2.16.840.1.113883.5.14 (ActStatus) = completed |
| value | 1..1 | SHALL | IVL\_TS | [22216](#C_22216) |  |
| width | 1..1 | SHALL |  | [22217](#C_22217) |  |
| @value | 1..1 | SHALL |  | [22218](#C_22218) |  |
| @unit | 1..1 | SHALL |  | [22219](#C_22219) |  |
| @xsi:type | 1..1 | SHALL |  | [22220](#C_22220) | IVL\_TS |

1. SHALL contain exactly one [1..1] @classCode="OBS" Observation (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 STATIC) (CONF:22208).
2. SHALL contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 STATIC) (CONF:22209).
3. SHALL contain exactly one [1..1] templateId (CONF:22210) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.6.127" (CONF:22211).
4. SHALL contain exactly one [1..1] code (CONF:22212).
   1. This code SHALL contain exactly one [1..1] @code="289248003" Duration of labor (CodeSystem: SNOMED CT 2.16.840.1.113883.6.96 STATIC) (CONF:22213).
5. SHALL contain exactly one [1..1] statusCode (CONF:22214).
   1. This statusCode SHALL contain exactly one [1..1] @code="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14 STATIC) (CONF:22215).
6. SHALL contain exactly one [1..1] value with @xsi:type="IVL\_TS" (CONF:22216).
   1. This value SHALL contain exactly one [1..1] width (CONF:22217).
      1. This width SHALL contain exactly one [1..1] @value (CONF:22218).
      2. This width SHALL contain exactly one [1..1] @unit (CONF:22219).
7. The value of width/@value SHALL be a non-negative real number representation the duration of labor in terms of the units specified in @unit (CONF:22221).

Figure 49: Duration of Labor Observation Example

<observation classCode="OBS" moodCode="EVN">

<!-- HAI Duration of Labor Observation templateId -->

<templateId root="2.16.840.1.113883.10.20.5.6.127"/>

<code code="289248003"

codeSystem="2.16.840.1.113883.6.96"

codeSystemName="SNOMED"

displayName="Duration of labor"/>

<statusCode code="completed"/>

<value xsi:type="IVL\_TS">

<width value="8" unit="h"/>

</value>

</observation>

Endoscope Used Clinical Statement

[procedure: identifier oid:2.16.840.1.113883.10.20.5.6.128 (closed)]

Table 145: Endoscope Used Clinical Statement Contexts

| Contained By: | Contains: |
| --- | --- |
| [Procedure Risk Factors Clinical Statement in a Procedure Report](#E_Procedure_Risk_Factors_Clinical_State) (required) |  |

This clinical statement records the detail required in a Procedure Report about the circumstances in which a procedure was performed.

The value of the id element must be globally unique and in general need not be an identifier used outside the document. Its function is to identify this procedure as being the same as the one documented in the Details Section of the same report.

Table 146: Endoscope Used Clinical Statement Constraints Overview

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| XPath | Card. | Verb | Data Type | CONF# | Value |
| procedure (identifier: oid:2.16.840.1.113883.10.20.5.6.128) | | | | | |
| @classCode | 1..1 | SHALL |  | [21992](#C_21992) | 2.16.840.1.113883.5.6 (HL7ActClass) = PROC |
| @moodCode | 1..1 | SHALL |  | [21993](#C_21993) | 2.16.840.1.113883.5.1001 (ActMood) = EVN |
| @negationInd | 1..1 | SHALL |  | [21994](#C_21994) |  |
| templateId | 1..1 | SHALL |  | [28235](#C_28235) |  |
| @root | 1..1 | SHALL |  | [28236](#C_28236) | 2.16.840.1.113883.10.20.22.4.14 |
| templateId | 1..1 | SHALL |  | [22160](#C_22160) |  |
| @root | 1..1 | SHALL |  | [22161](#C_22161) | 2.16.840.1.113883.10.20.5.6.128 |
| id | 1..1 | SHALL |  | [22162](#C_22162) |  |
| code | 1..1 | SHALL |  | [21995](#C_21995) |  |
| @code | 1..1 | SHALL |  | [21996](#C_21996) | 423827005 |
| @codeSystem | 1..1 | SHALL |  | [28184](#C_28184) | 2.16.840.1.113883.6.96 (SNOMED CT) = 2.16.840.1.113883.6.96 |
| statusCode | 1..1 | SHALL |  | [22163](#C_22163) |  |
| @code | 1..1 | SHALL |  | [28107](#C_28107) | 2.16.840.1.113883.5.14 (ActStatus) = completed |

1. Conforms to Procedure Activity Procedure template (identifier: oid:2.16.840.1.113883.10.20.22.4.14).
2. SHALL contain exactly one [1..1] @classCode="PROC" Procedure (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 STATIC) (CONF:21992).
3. SHALL contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 STATIC) (CONF:21993).
4. SHALL contain exactly one [1..1] @negationInd (CONF:21994).
5. SHALL contain exactly one [1..1] templateId (CONF:28235) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.4.14" (CONF:28236).
6. SHALL contain exactly one [1..1] templateId (CONF:22160) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.6.128" (CONF:22161).
7. SHALL contain exactly one [1..1] id (CONF:22162).
8. SHALL contain exactly one [1..1] code (CONF:21995).
   1. This code SHALL contain exactly one [1..1] @code="423827005" Endoscopy (CONF:21996).
   2. This code SHALL contain exactly one [1..1] @codeSystem="2.16.840.1.113883.6.96" (CodeSystem: SNOMED CT 2.16.840.1.113883.6.96) (CONF:28184).
9. SHALL contain exactly one [1..1] statusCode (CONF:22163).
   1. This statusCode SHALL contain exactly one [1..1] @code="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14) (CONF:28107).

Figure 50: Endoscope Used Clinical Statement Example

<procedure classCode="PROC" moodCode="EVN" negationInd="false">

<!-- C-CDA Procedure Activity Procedure templateId. -->

<templateId root="2.16.840.1.113883.10.20.22.4.14" />

<!-- HAI Endoscope Used Clinical Statement templateId -->

<templateId root="2.16.840.1.113883.10.20.5.6.128" />

<id root="807007ba-c8f0-4842-9c3c-4a4e4c570849" />

<code codeSystem="2.16.840.1.113883.6.96"

codeSystemName="SNOMED"

code="423827005"

displayName="Endoscopy" />

<statusCode code="completed" />

</procedure>

Findings Organizer

[organizer: identifier oid:2.16.840.1.113883.10.20.5.6.182 (closed)]

Table 147: Findings Organizer Contexts

| Contained By: | Contains: |
| --- | --- |
| [Findings Section in an Infection-Type Report](#S_Findings_Section_in_an_InfectionType_) (optional) | [Drug-Susceptibility Test Observation](#E_DrugSusceptibility_Test_Observation)  [Pathogen Identified Observation](#E_Pathogen_Identified_Observation)  [Pathogen Ranking Observation](#E_Pathogen_Ranking_Observation) |

Each Findings Organizer represents a set of information concerning a single pathogen identified. The organizer contains two component elements that record the pathogen and its rank in regard to the other pathogens identified, and can contain additional component elements recording drug-susceptibility test findings. For pathogen antibiogram reporting requirements, refer to the NHSN protocol and the IDM.

Table 148: Findings Organizer Constraints Overview

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| XPath | Card. | Verb | Data Type | CONF# | Value |
| organizer (identifier: oid:2.16.840.1.113883.10.20.5.6.182) | | | | | |
| @classCode | 1..1 | SHALL |  | [22239](#C_22239) | 2.16.840.1.113883.5.6 (HL7ActClass) = CLUSTER |
| @moodCode | 1..1 | SHALL |  | [22240](#C_22240) | 2.16.840.1.113883.5.1001 (ActMood) = EVN |
| templateId | 1..1 | SHALL |  | [22241](#C_22241) |  |
| @root | 1..1 | SHALL |  | [22242](#C_22242) | 2.16.840.1.113883.10.20.5.6.182 |
| id | 1..1 | SHALL |  | [22243](#C_22243) |  |
| @nullFlavor | 1..1 | SHALL |  | [22770](#C_22770) | NA |
| statusCode | 1..1 | SHALL |  | [22244](#C_22244) |  |
| @code | 1..1 | SHALL |  | [22245](#C_22245) | 2.16.840.1.113883.5.14 (ActStatus) = completed |
| component | 1..1 | SHALL |  | [22246](#C_22246) |  |
| observation | 1..1 | SHALL |  | [22247](#C_22247) | [Pathogen Identified Observation (identifier: oid:2.16.840.1.113883.10.20.5.6.145](#E_Pathogen_Identified_Observation) |
| component | 1..1 | SHALL |  | [22248](#C_22248) |  |
| observation | 1..1 | SHALL |  | [22249](#C_22249) | [Pathogen Ranking Observation (identifier: oid:2.16.840.1.113883.10.20.5.6.147](#E_Pathogen_Ranking_Observation) |
| component | 0..\* | MAY |  | [22250](#C_22250) |  |
| observation | 1..1 | SHALL |  | [22251](#C_22251) | [Drug-Susceptibility Test Observation (identifier: oid:2.16.840.1.113883.10.20.5.6.126](#E_DrugSusceptibility_Test_Observation) |

1. SHALL contain exactly one [1..1] @classCode="CLUSTER" Cluster (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 STATIC) (CONF:22239).
2. SHALL contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 STATIC) (CONF:22240).
3. SHALL contain exactly one [1..1] templateId (CONF:22241) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.6.182" (CONF:22242).
4. SHALL contain exactly one [1..1] id (CONF:22243).
   1. This id SHALL contain exactly one [1..1] @nullFlavor="NA" (CONF:22770).
5. SHALL contain exactly one [1..1] statusCode (CONF:22244).
   1. This statusCode SHALL contain exactly one [1..1] @code="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14 STATIC) (CONF:22245).
6. SHALL contain exactly one [1..1] component (CONF:22246) such that it
   1. SHALL contain exactly one [1..1] [Pathogen Identified Observation](#E_Pathogen_Identified_Observation) (identifier: oid:2.16.840.1.113883.10.20.5.6.145) (CONF:22247).
7. SHALL contain exactly one [1..1] component (CONF:22248) such that it
   1. SHALL contain exactly one [1..1] [Pathogen Ranking Observation](#E_Pathogen_Ranking_Observation) (identifier: oid:2.16.840.1.113883.10.20.5.6.147) (CONF:22249).
8. MAY contain zero or more [0..\*] component (CONF:22250) such that it
   1. SHALL contain exactly one [1..1] [Drug-Susceptibility Test Observation](#E_DrugSusceptibility_Test_Observation) (identifier: oid:2.16.840.1.113883.10.20.5.6.126) (CONF:22251).

Figure 51: Findings Organizer Example

<organizer classCode="CLUSTER" moodCode=”EVN”>

<templateId root="2.16.840.1.113883.10.20.5.6.182"/>

<id nullFlavor="NA"/ >

<statusCode code="completed"/>

<component>

<observation classCode="OBS" moodCode="EVN">

<!-- C-CDA Result Observation templateId -->

<templateId root="2.16.840.1.113883.10.20.22.4.2"/>

<!-- Pathogen Identified Observation -->

<templateId root="2.16.840.1.113883.10.20.5.6.145"/>

...

</observation>

</component>

<component>

<observation classCode="OBS" moodCode="EVN">

<!-- C-CDA Problem Observation templateId -->

<templateId root="2.16.840.1.113883.10.20.22.4.4"/>

<!-- HAI Pathogen Ranking Observation templateId -->

<templateId root="2.16.840.1.113883.10.20.5.6.147"/>

...

</observation>

</component>

<component>

<observation classCode="OBS" moodCode="EVN">

<!-- C-CDA Result Observation templateId -->

<templateId root="2.16.840.1.113883.10.20.22.4.2"/>

<!-- HAI Drug-Susceptibility Test Observation templateId -->

<templateId root="2.16.840.1.113883.10.20.5.6.126"/>

...

</observation>

</component>

</organizer>

Guidewire Used Clinical Statement

[procedure: identifier oid:2.16.840.1.113883.10.20.5.6.129 (closed)]

Table 149: Guidewire Used Clinical Statement Contexts

| Contained By: | Contains: |
| --- | --- |
| [Reason for Procedure Observation](#E_Reason_for_Procedure_Observation) (optional) |  |

This clinical statement records whether the performance of a central-line exchange used a guidewire.

If the central line was exchanged over a guidewire, set the value of @negationInd to false. If the central line was not exchanged over a guidewire, set the value of @negationInd to true.

Table 150: Guidewire Used Clinical Statement Constraints Overview

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| XPath | Card. | Verb | Data Type | CONF# | Value |
| procedure (identifier: oid:2.16.840.1.113883.10.20.5.6.129) | | | | | |
| @classCode | 1..1 | SHALL |  | [22151](#C_22151) | 2.16.840.1.113883.5.6 (HL7ActClass) = PROC |
| @moodCode | 1..1 | SHALL |  | [22152](#C_22152) | 2.16.840.1.113883.5.1001 (ActMood) = EVN |
| @negationInd | 1..1 | SHALL |  | [22153](#C_22153) |  |
| templateId | 1..1 | SHALL |  | [28237](#C_28237) |  |
| @root | 1..1 | SHALL |  | [28238](#C_28238) | 2.16.840.1.113883.10.20.22.4.14 |
| templateId | 1..1 | SHALL |  | [22154](#C_22154) |  |
| @root | 1..1 | SHALL |  | [22155](#C_22155) | 2.16.840.1.113883.10.20.5.6.129 |
| id | 1..1 | SHALL |  | [22156](#C_22156) |  |
| @nullFlavor | 1..1 | SHALL |  | [22751](#C_22751) | NA |
| code | 1..1 | SHALL |  | [22157](#C_22157) |  |
| @code | 1..1 | SHALL |  | [22158](#C_22158) | 3121-1 |
| @codeSystem | 1..1 | SHALL |  | [28185](#C_28185) | 2.16.840.1.113883.6.277 (cdcNHSN) = 2.16.840.1.113883.6.277 |
| statusCode | 1..1 | SHALL |  | [22159](#C_22159) |  |
| @code | 1..1 | SHALL |  | [28108](#C_28108) | 2.16.840.1.113883.5.14 (ActStatus) = completed |

1. Conforms to Procedure Activity Procedure template (identifier: oid:2.16.840.1.113883.10.20.22.4.14).
2. SHALL contain exactly one [1..1] @classCode="PROC" Procedure (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 STATIC) (CONF:22151).
3. SHALL contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 STATIC) (CONF:22152).
4. SHALL contain exactly one [1..1] @negationInd (CONF:22153).
5. SHALL contain exactly one [1..1] templateId (CONF:28237) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.4.14" (CONF:28238).
6. SHALL contain exactly one [1..1] templateId (CONF:22154) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.6.129" (CONF:22155).
7. SHALL contain exactly one [1..1] id (CONF:22156).
   1. This id SHALL contain exactly one [1..1] @nullFlavor="NA" (CONF:22751).
8. SHALL contain exactly one [1..1] code (CONF:22157).
   1. This code SHALL contain exactly one [1..1] @code="3121-1" Central line exchanged over guidewire (CONF:22158).
   2. This code SHALL contain exactly one [1..1] @codeSystem="2.16.840.1.113883.6.277" (CodeSystem: cdcNHSN 2.16.840.1.113883.6.277) (CONF:28185).
9. SHALL contain exactly one [1..1] statusCode (CONF:22159).
   1. This statusCode SHALL contain exactly one [1..1] @code="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14) (CONF:28108).

Figure 52: Guidewire Used Clinical Statement Example

<procedure moodCode="EVN" classCode="PROC" negationInd="false">

<!-- C-CDA Procedure Activity Procedure templateId -->

<templateId root="2.16.840.1.113883.10.20.22.4.14" />

<!-- HAI Guidewire Used Clinical Statement templateId -->

<templateId root="2.16.840.1.113883.10.20.5.6.129" />

<id nullFlavor="NA" />

<code code="3121-1"

codeSystem="2.16.840.1.113883.6.277"

codeSystemName="cdcNHSN"

displayName="Central line exchanged over guidewire" />

<statusCode code="completed" />

</procedure>

Hand Hygiene Performed Clinical Statement

[procedure: identifier oid:2.16.840.1.113883.10.20.5.6.130 (closed)]

Table 151: Hand Hygiene Performed Clinical Statement Contexts

| Contained By: | Contains: |
| --- | --- |
| [Central-Line Insertion Preparation Organizer](#E_CentralLine_Insertion_Preparation_Org) (required) |  |

This clinical statement reports whether hand hygiene was performed. It is one of the actions recorded in the first, preparatory step of in the central-line insertion practice sequence.

If the preparation step included hand hygiene, set the value of @negationInd to false. If the preparation step did not include hand hygiene, set the value of @negationInd to true.

Table 152: Hand Hygiene Performed Clinical Statement Constraints Overview

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| XPath | Card. | Verb | Data Type | CONF# | Value |
| procedure (identifier: oid:2.16.840.1.113883.10.20.5.6.130) | | | | | |
| @classCode | 1..1 | SHALL |  | [22141](#C_22141) | 2.16.840.1.113883.5.6 (HL7ActClass) = PROC |
| @moodCode | 1..1 | SHALL |  | [22142](#C_22142) | 2.16.840.1.113883.5.1001 (ActMood) = EVN |
| @negationInd | 1..1 | SHALL |  | [22143](#C_22143) |  |
| templateId | 1..1 | SHALL |  | [28239](#C_28239) |  |
| @root | 1..1 | SHALL |  | [28240](#C_28240) | 2.16.840.1.113883.10.20.22.4.14 |
| templateId | 1..1 | SHALL |  | [22144](#C_22144) |  |
| @root | 1..1 | SHALL |  | [22145](#C_22145) | 2.16.840.1.113883.10.20.5.6.130 |
| id | 1..1 | SHALL |  | [22146](#C_22146) |  |
| @nullFlavor | 1..1 | SHALL |  | [22752](#C_22752) | NA |
| code | 1..1 | SHALL |  | [22147](#C_22147) |  |
| @code | 1..1 | SHALL |  | [22148](#C_22148) | 2.16.840.1.113883.6.277 (cdcNHSN) = 3109-6 |
| statusCode | 1..1 | SHALL |  | [22149](#C_22149) |  |
| @code | 1..1 | SHALL |  | [22150](#C_22150) | 2.16.840.1.113883.5.14 (ActStatus) = completed |

1. Conforms to Procedure Activity Procedure template (identifier: oid:2.16.840.1.113883.10.20.22.4.14).
2. SHALL contain exactly one [1..1] @classCode="PROC" Procedure (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 STATIC) (CONF:22141).
3. SHALL contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 STATIC) (CONF:22142).
4. SHALL contain exactly one [1..1] @negationInd (CONF:22143).
5. SHALL contain exactly one [1..1] templateId (CONF:28239) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.4.14" (CONF:28240).
6. SHALL contain exactly one [1..1] templateId (CONF:22144) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.6.130" (CONF:22145).
7. SHALL contain exactly one [1..1] id (CONF:22146).
   1. This id SHALL contain exactly one [1..1] @nullFlavor="NA" (CONF:22752).
8. SHALL contain exactly one [1..1] code (CONF:22147).
   1. This code SHALL contain exactly one [1..1] @code="3109-6" Hand hygiene (CodeSystem: cdcNHSN 2.16.840.1.113883.6.277 STATIC) (CONF:22148).
9. SHALL contain exactly one [1..1] statusCode (CONF:22149).
   1. This statusCode SHALL contain exactly one [1..1] @code="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14 STATIC) (CONF:22150).

Figure 53: Hand Hygiene Performed Clinical Statement Example

<component>

<procedure moodCode="EVN" classCode="PROC" negationInd="false">

<!-- C-CDA Procedure Activity Procedure templateId -->

<templateId root="2.16.840.1.113883.10.20.22.4.14" />

<!-- HAI Hand Hygiene Performed Clinical Statement templateId -->

<templateId root="2.16.840.1.113883.10.20.5.6.130" />

<id nullFlavor="NA" />

<code code="3109-6"

codeSystem="2.16.840.1.113883.6.277"

codeSystemName="cdcNHSN"

displayName="Hand hygiene" />

<statusCode code="completed"/>

</procedure>

</component>

Height Observation

[observation: identifier oid:2.16.840.1.113883.10.20.5.6.131 (closed)]

Table 153: Height Observation Contexts

| Contained By: | Contains: |
| --- | --- |
| [Infection Risk Factors Section in a Procedure Report](#S_Infection_Risk_Factors_Section_in_a_P) (required) |  |

This observation records a body height.

Table 154: Height Observation Constraints Overview

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| XPath | Card. | Verb | Data Type | CONF# | Value |
| observation (identifier: oid:2.16.840.1.113883.10.20.5.6.131) | | | | | |
| @classCode | 1..1 | SHALL |  | [19729](#C_19729) | 2.16.840.1.113883.5.6 (HL7ActClass) = OBS |
| @moodCode | 1..1 | SHALL |  | [19730](#C_19730) | 2.16.840.1.113883.5.1001 (ActMood) = EVN |
| @negationInd | 1..1 | SHALL |  | [19731](#C_19731) | false |
| templateId | 1..1 | SHALL |  | [28241](#C_28241) |  |
| @root | 1..1 | SHALL |  | [28242](#C_28242) | 2.16.840.1.113883.10.20.22.4.27 |
| templateId | 1..1 | SHALL |  | [19746](#C_19746) |  |
| @root | 1..1 | SHALL |  | [27434](#C_27434) | 2.16.840.1.113883.10.20.5.6.131 |
| id | 1..1 | SHALL |  | [19748](#C_19748) |  |
| @nullFlavor | 1..1 | SHALL |  | [22753](#C_22753) | NA |
| code | 1..1 | SHALL |  | [19732](#C_19732) |  |
| @code | 1..1 | SHALL |  | [19733](#C_19733) | 50373000 |
| @codeSystem | 1..1 | SHALL |  | [28191](#C_28191) | 2.16.840.1.113883.6.96 (SNOMED CT) = 2.16.840.1.113883.6.96 |
| statusCode | 1..1 | SHALL |  | [19734](#C_19734) |  |
| @code | 1..1 | SHALL |  | [19735](#C_19735) | 2.16.840.1.113883.5.14 (ActStatus) = completed |
| effectiveTime | 1..1 | SHALL |  | [19749](#C_19749) |  |
| @nullFlavor | 1..1 | SHALL |  | [22754](#C_22754) | NA |
| value | 1..1 | SHALL | PQ | [19736](#C_19736) |  |
| @value | 1..1 | SHALL |  | [19750](#C_19750) |  |
| @unit | 1..1 | SHALL |  | [19752](#C_19752) |  |

1. Conforms to Vital Sign Observation template (identifier: oid:2.16.840.1.113883.10.20.22.4.27).
2. SHALL contain exactly one [1..1] @classCode="OBS" Observation (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 STATIC) (CONF:19729).
3. SHALL contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 STATIC) (CONF:19730).
4. SHALL contain exactly one [1..1] @negationInd="false" (CONF:19731).
5. SHALL contain exactly one [1..1] templateId (CONF:28241) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.4.27" (CONF:28242).
6. SHALL contain exactly one [1..1] templateId (CONF:19746) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.6.131" (CONF:27434).
7. SHALL contain exactly one [1..1] id (CONF:19748).
   1. This id SHALL contain exactly one [1..1] @nullFlavor="NA" (CONF:22753).
8. SHALL contain exactly one [1..1] code (CONF:19732).
   1. This code SHALL contain exactly one [1..1] @code="50373000" Body height (CONF:19733).
   2. This code SHALL contain exactly one [1..1] @codeSystem="2.16.840.1.113883.6.96" (CodeSystem: SNOMED CT 2.16.840.1.113883.6.96) (CONF:28191).
9. SHALL contain exactly one [1..1] statusCode (CONF:19734).
   1. This statusCode SHALL contain exactly one [1..1] @code="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14 STATIC) (CONF:19735).
10. SHALL contain exactly one [1..1] effectiveTime (CONF:19749).
    1. This effectiveTime SHALL contain exactly one [1..1] @nullFlavor="NA" (CONF:22754).
11. SHALL contain exactly one [1..1] value with @xsi:type="PQ" (CONF:19736).
    1. This value SHALL contain exactly one [1..1] @value (CONF:19750).
       1. The value of @value SHALL be a non-negative real number representing the body height in terms of the units specified in @unit (CONF:19751).
    2. This value SHALL contain exactly one [1..1] @unit (CONF:19752).

Figure 54: Height Observation Example

<observation classCode="OBS" moodCode="EVN" negationInd="false">

<!-- C-CDA Vital Sign Observation templateId -->

<templateId root="2.16.840.1.113883.10.20.22.4.27"/>

<!-- HAI Height Observation templateId -->

<templateId root="2.16.840.1.113883.10.20.5.6.131"/>

<id nullFlavor="NA"/>

<code code="50373000"

codeSystem="2.16.840.1.113883.6.96"

codeSystemName="SNOMED"

displayName="Body Height"/>

<statusCode code="completed"/>

<effectiveTime nullFlavor="NA"/>

<value xsi:type="PQ" value="1.9" unit="m"/>

</observation>

History of Object Presence Observation

[observation: identifier oid:2.16.840.1.113883.10.20.5.6.132 (closed)]

Table 155: History of Object Presence Observation Contexts

| Contained By: | Contains: |
| --- | --- |
| [Urinary Catheter Observation](#E_Urinary_Catheter_Observation) (optional) |  |

This observation records a fact about the history of an object's presence. The observation is intended for use within a context that specifies the object.

When used within the Urinary Catheter Observation, if the patient had a urinary catheter removed within 48 hours, set the value of @negationInd to false. If the patient did not have a urinary catheter removed within 48 hours, set the value of @negationInd to true.

Table 156: History of Object Presence Observation Constraints Overview

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| XPath | Card. | Verb | Data Type | CONF# | Value |
| observation (identifier: oid:2.16.840.1.113883.10.20.5.6.132) | | | | | |
| @classCode | 1..1 | SHALL |  | [22196](#C_22196) | 2.16.840.1.113883.5.6 (HL7ActClass) = OBS |
| @moodCode | 1..1 | SHALL |  | [22197](#C_22197) | 2.16.840.1.113883.5.1001 (ActMood) = EVN |
| @negationInd | 1..1 | SHALL |  | [22198](#C_22198) |  |
| templateId | 1..1 | SHALL |  | [22199](#C_22199) |  |
| @root | 1..1 | SHALL |  | [22200](#C_22200) | 2.16.840.1.113883.10.20.5.6.132 |
| id | 1..1 | SHALL |  | [22201](#C_22201) |  |
| @nullFlavor | 1..1 | SHALL |  | [22755](#C_22755) | NA |
| code | 1..1 | SHALL |  | [22202](#C_22202) |  |
| @code | 1..1 | SHALL |  | [22203](#C_22203) | 2.16.840.1.113883.5.4 (ActCode) = ASSERTION |
| statusCode | 1..1 | SHALL |  | [22204](#C_22204) |  |
| @code | 1..1 | SHALL |  | [22205](#C_22205) | 2.16.840.1.113883.5.14 (ActStatus) = completed |
| value | 1..1 | SHALL | CD | [22206](#C_22206) |  |
| @code | 1..1 | SHALL |  | [22207](#C_22207) | 2.16.840.1.113883.6.277 (cdcNHSN) = 2404-2 |

1. SHALL contain exactly one [1..1] @classCode="OBS" Observation (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 STATIC) (CONF:22196).
2. SHALL contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 STATIC) (CONF:22197).
3. SHALL contain exactly one [1..1] @negationInd (CONF:22198).
4. SHALL contain exactly one [1..1] templateId (CONF:22199) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.6.132" (CONF:22200).
5. SHALL contain exactly one [1..1] id (CONF:22201).
   1. This id SHALL contain exactly one [1..1] @nullFlavor="NA" (CONF:22755).
6. SHALL contain exactly one [1..1] code (CONF:22202).
   1. This code SHALL contain exactly one [1..1] @code="ASSERTION" Assertion (CodeSystem: ActCode 2.16.840.1.113883.5.4 STATIC) (CONF:22203).
7. SHALL contain exactly one [1..1] statusCode (CONF:22204).
   1. This statusCode SHALL contain exactly one [1..1] @code="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14 STATIC) (CONF:22205).
8. SHALL contain exactly one [1..1] value with @xsi:type="CD" (CONF:22206).
   1. This value SHALL contain exactly one [1..1] @code="2404-2" Removed within 48 hours prior (CodeSystem: cdcNHSN 2.16.840.1.113883.6.277 STATIC) (CONF:22207).

Figure 55: History of Object Presence Observation Example

<observation classCode="OBS" moodCode="EVN" negationInd="false">

<!-- HAI History of Object Presence Observation templateId -->

<templateId root="2.16.840.1.113883.10.20.5.6.132"/>

<id nullFlavor="NA"/>

<code codeSystem="2.16.840.1.113883.5.4"

code="ASSERTION"/>

<statusCode code="completed"/>

<value xsi:type="CD"

codeSystem="2.16.840.1.113883.6.277"

codeSystemName="cdcNHSN"

code="2404-2"

displayName="Removed within 48 hours prior"/>

</observation>

Hospital Admission Clinical Statement

[act: identifier oid:2.16.840.1.113883.10.20.5.6.133 (closed)]

Table 157: Hospital Admission Clinical Statement Contexts

| Contained By: | Contains: |
| --- | --- |
| [Details Section in an Evidence of Infection (Dialysis) Report (V2)](#S_Details_Section_in_an_Evidence_of_V2) (required) |  |

This clinical statement records whether the outpatient was hospitalized. A causal relationship to the infection indicator(s) is not recorded.

When the outpatient was hospitalized, set the value of act/@negationInd to false. When the outpatient was not hospitalized, set the value of act/@negationInd to true. When it is not known whether the outpatient was hospitalized, set the value of act/@nullFlavor to UNK.

Table 158: Hospital Admission Clinical Statement Constraints Overview

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| XPath | Card. | Verb | Data Type | CONF# | Value |
| act (identifier: oid:2.16.840.1.113883.10.20.5.6.133) | | | | | |
| @nullFlavor | 0..1 | MAY |  | [22185](#C_22185) | UNK |
| @classCode | 1..1 | SHALL |  | [22187](#C_22187) | 2.16.840.1.113883.5.6 (HL7ActClass) = ACT |
| @moodCode | 1..1 | SHALL |  | [22188](#C_22188) | 2.16.840.1.113883.5.1001 (ActMood) = EVN |
| @negationInd | 0..1 | MAY |  | [22189](#C_22189) |  |
| templateId | 1..1 | SHALL |  | [22191](#C_22191) |  |
| @root | 1..1 | SHALL |  | [22192](#C_22192) | 2.16.840.1.113883.10.20.5.6.133 |
| id | 1..1 | SHALL |  | [22193](#C_22193) |  |
| @nullFlavor | 1..1 | SHALL |  | [22756](#C_22756) | NA |
| code | 1..1 | SHALL |  | [22194](#C_22194) |  |
| @code | 1..1 | SHALL |  | [22195](#C_22195) | 2.16.840.1.113883.6.96 (SNOMED CT) = 32485007 |

1. MAY contain zero or one [0..1] @nullFlavor="UNK" (CONF:22185).
   1. If it is not known whether the outpatient was hospitalized, the value of act/@nullFlavor SHALL be UNK (CONF:22186).
2. SHALL contain exactly one [1..1] @classCode="ACT" (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 STATIC) (CONF:22187).
3. SHALL contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 STATIC) (CONF:22188).
4. MAY contain zero or one [0..1] @negationInd (CONF:22189).
   1. If the outpatient was hospitalized, the value of act/@negationInd SHALL be false. If the outpatient was not hospitalized, the value of act/@negationInd SHALL be true (CONF:22190).
5. SHALL contain exactly one [1..1] templateId (CONF:22191) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.6.133" (CONF:22192).
6. SHALL contain exactly one [1..1] id (CONF:22193).
   1. This id SHALL contain exactly one [1..1] @nullFlavor="NA" (CONF:22756).
7. SHALL contain exactly one [1..1] code (CONF:22194).
   1. This code SHALL contain exactly one [1..1] @code="32485007" Hospital Admission (CodeSystem: SNOMED CT 2.16.840.1.113883.6.96 STATIC) (CONF:22195).

Figure 56: Hospital Admission Clinical Statement Example

<act classCode="ACT" moodCode="EVN" negationInd="false">

<!-- HAI Hospital Admission templateId -->

<templateId root="2.16.840.1.113883.10.20.5.6.133" />

<id nullFlavor="NA" />

<code codeSystem="2.16.840.1.113883.6.96"

codeSystemName="SNOMED"

code="32485007"

displayName="Hospital Admission" />

</act>

Imputability Observation

[observation: identifier oid:2.16.840.1.113883.10.20.5.6.134 (closed)]

Table 159: Imputability Observation Contexts

| Contained By: | Contains: |
| --- | --- |
| [Suspected Source Observation](#E_Suspected_Source_Observation) (required) |  |

This observation records the strength of certainty of a relationship between events. The relationship is recorded in the code element.

Table 160: Imputability Observation Constraints Overview

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| XPath | Card. | Verb | Data Type | CONF# | Value |
| observation (identifier: oid:2.16.840.1.113883.10.20.5.6.134) | | | | | |
| @classCode | 1..1 | SHALL |  | [21796](#C_21796) | 2.16.840.1.113883.5.6 (HL7ActClass) = OBS |
| @moodCode | 1..1 | SHALL |  | [21797](#C_21797) | 2.16.840.1.113883.5.1001 (ActMood) = EVN |
| @negationInd | 1..1 | SHALL |  | [21798](#C_21798) |  |
| templateId | 1..1 | SHALL |  | [28243](#C_28243) |  |
| @root | 1..1 | SHALL |  | [28244](#C_28244) | 2.16.840.1.113883.10.20.22.4.4 |
| templateId | 1..1 | SHALL |  | [21801](#C_21801) |  |
| @root | 1..1 | SHALL |  | [21802](#C_21802) | 2.16.840.1.113883.10.20.5.6.134 |
| id | 1..1 | SHALL |  | [21803](#C_21803) |  |
| @nullFlavor | 1..1 | SHALL |  | [22757](#C_22757) |  |
| code | 1..1 | SHALL |  | [21804](#C_21804) |  |
| statusCode | 1..1 | SHALL |  | [21806](#C_21806) |  |
| @code | 1..1 | SHALL |  | [21807](#C_21807) | 2.16.840.1.113883.5.14 (ActStatus) = completed |
| value | 1..1 | SHALL |  | [21808](#C_21808) |  |

1. Conforms to Problem Observation template (identifier: oid:2.16.840.1.113883.10.20.22.4.4).
2. SHALL contain exactly one [1..1] @classCode="OBS" Observation (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 STATIC) (CONF:21796).
3. SHALL contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 STATIC) (CONF:21797).
4. SHALL contain exactly one [1..1] @negationInd (CONF:21798).
5. SHALL contain exactly one [1..1] templateId (CONF:28243) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.4.4" (CONF:28244).
6. SHALL contain exactly one [1..1] templateId (CONF:21801) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.6.134" (CONF:21802).
7. SHALL contain exactly one [1..1] id (CONF:21803).
   1. This id SHALL contain exactly one [1..1] @nullFlavor (CONF:22757).
8. SHALL contain exactly one [1..1] code (CONF:21804).
   1. To record imputability of a positive blood culture to the suspected source of contamination, the value of @code SHALL be 2307-7 Imputability of positive blood culture to the suspected source 2.16.840.1.113883.6.277 cdcNHSN (CONF:21805).
9. SHALL contain exactly one [1..1] statusCode (CONF:21806).
   1. This statusCode SHALL contain exactly one [1..1] @code="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14 STATIC) (CONF:21807).
10. SHALL contain exactly one [1..1] value (CONF:21808).
    1. In an Evidence of Infection (Dialysis) Report, (CONF:21809).
       1. The value of the observation's @negationInd SHALL be 'false' (CONF:21810).
       2. The value of @code SHALL be 60022001 Possible 2.16.840.1.113883.6.96 SNOMED CT (CONF:21811).

Figure 57: Imputability Observation Example

<!-- Imputability of positive blood culture to suspected source example -->

<observation classCode="OBS" moodCode="EVN" negationInd="false">

<!-- C-CDA Problem Observation templateId -->

<templateId root="2.16.840.1.113883.10.20.22.4.4"/>

<!-- HAI Imputability Observation -->

<templateId root="2.16.840.1.113883.10.20.5.6.134"/>

<id nullFlavor="NA"/>

<code codeSystem="2.16.840.1.113883.6.277"

codeSystemName="cdcNHSN"

code="2307-7"

displayName="Imputability of positive blood culture to the suspected source"/>

<statusCode code="completed"/>

<value xsi:type="CD"

codeSystem="2.16.840.1.113883.6.96"

codeSystemName="SNOMED CT" code="60022001"

displayName="Possible"/>

</observation>

Infection Condition Observation

[observation: identifier oid:2.16.840.1.113883.10.20.5.6.135 (closed)]

Table 161: Infection Condition Observation Contexts

| Contained By: | Contains: |
| --- | --- |
| [Infection-Type Observation](#E_InfectionType_Observation) (optional) |  |

This observation records the infection condition being reported.

Table 162: Infection Condition Observation Constraints Overview

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| XPath | Card. | Verb | Data Type | CONF# | Value |
| observation (identifier: oid:2.16.840.1.113883.10.20.5.6.135) | | | | | |
| @classCode | 1..1 | SHALL |  | [19883](#C_19883) | 2.16.840.1.113883.5.6 (HL7ActClass) = OBS |
| @moodCode | 1..1 | SHALL |  | [19884](#C_19884) | 2.16.840.1.113883.5.1001 (ActMood) = EVN |
| @negationInd | 1..1 | SHALL |  | [19885](#C_19885) | false |
| templateId | 1..1 | SHALL |  | [28245](#C_28245) |  |
| @root | 1..1 | SHALL |  | [28246](#C_28246) | 2.16.840.1.113883.10.20.22.4.4 |
| templateId | 1..1 | SHALL |  | [19888](#C_19888) |  |
| @root | 1..1 | SHALL |  | [19889](#C_19889) | 2.16.840.1.113883.10.20.5.6.135 |
| id | 1..1 | SHALL |  | [19890](#C_19890) |  |
| @nullFlavor | 1..1 | SHALL |  | [22758](#C_22758) | NA |
| code | 1..1 | SHALL |  | [19891](#C_19891) |  |
| @code | 1..1 | SHALL |  | [19892](#C_19892) | 2.16.840.1.113883.5.4 (ActCode) = ASSERTION |
| statusCode | 1..1 | SHALL |  | [19893](#C_19893) |  |
| @code | 1..1 | SHALL |  | [19894](#C_19894) | 2.16.840.1.113883.5.14 (ActStatus) = completed |
| value | 1..1 | SHALL | CD | [19895](#C_19895) | 2.16.840.1.114222.4.11.3196 (NHSNInfectionConditionCode) |

1. Conforms to Problem Observation template (identifier: oid:2.16.840.1.113883.10.20.22.4.4).
2. SHALL contain exactly one [1..1] @classCode="OBS" Observation (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 STATIC) (CONF:19883).
3. SHALL contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 STATIC) (CONF:19884).
4. SHALL contain exactly one [1..1] @negationInd="false" (CONF:19885).
5. SHALL contain exactly one [1..1] templateId (CONF:28245) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.4.4" (CONF:28246).
6. SHALL contain exactly one [1..1] templateId (CONF:19888) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.6.135" (CONF:19889).
7. SHALL contain exactly one [1..1] id (CONF:19890).
   1. This id SHALL contain exactly one [1..1] @nullFlavor="NA" (CONF:22758).
8. SHALL contain exactly one [1..1] code (CONF:19891).
   1. This code SHALL contain exactly one [1..1] @code="ASSERTION" Assertion (CodeSystem: ActCode 2.16.840.1.113883.5.4 STATIC) (CONF:19892).
9. SHALL contain exactly one [1..1] statusCode (CONF:19893).
   1. This statusCode SHALL contain exactly one [1..1] @code="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14 STATIC) (CONF:19894).
10. SHALL contain exactly one [1..1] value with @xsi:type="CD", where the code SHALL be selected from ValueSet [NHSNInfectionConditionCode](#NHSNInfectionConditionCode) 2.16.840.1.114222.4.11.3196 DYNAMIC (CONF:19895).

Table 163: NHSNInfectionConditionCode

|  |  |  |  |
| --- | --- | --- | --- |
| Value Set: NHSNInfectionConditionCode 2.16.840.1.114222.4.11.3196  Code System: SNOMED CT 2.16.840.1.113883.6.96 or cdcNHSN 2.16.840.1.113883.6.277 | | | |
| Code | Code System | Code System OID | Print Name |
| 2707005 | SNOMED CT | 2.16.840.1.113883.6.96 | Necrotizing enterocolitis |
| 9826008 | SNOMED CT | 2.16.840.1.113883.6.96 | Conjunctivitis |
| 12463005 | SNOMED CT | 2.16.840.1.113883.6.96 | Infectious gastroenteritis |
| 19824006 | SNOMED CT | 2.16.840.1.113883.6.96 | Skin |
| 25374005 | SNOMED CT | 2.16.840.1.113883.6.96 | Gastroenteritis |
| 36971009 | SNOMED CT | 2.16.840.1.113883.6.96 | Sinusitis |
| 47597000 | SNOMED CT | 2.16.840.1.113883.6.96 | Mediastinitis |
| 56819008 | SNOMED CT | 2.16.840.1.113883.6.96 | Endocarditis |
| 60168000 | SNOMED CT | 2.16.840.1.113883.6.96 | Osteomyelitis |
| 78623009 | SNOMED CT | 2.16.840.1.113883.6.96 | Endometritis |
| 128241005 | SNOMED CT | 2.16.840.1.113883.6.96 | Hepatitis |
| 239095007 | SNOMED CT | 2.16.840.1.113883.6.96 | Omphalitis |
| 300927001 | SNOMED CT | 2.16.840.1.113883.6.96 | Episiotomy |
| 302935008 | SNOMED CT | 2.16.840.1.113883.6.96 | Disc space |
| 312157006 | SNOMED CT | 2.16.840.1.113883.6.96 | Infectious mediastinitis |
| 1601-4 | cdcNHSN | 2.16.840.1.113883.6.277 | Breast abscess or mastitis |
| 1602-2 | cdcNHSN | 2.16.840.1.113883.6.277 | Myocarditis or pericarditis |
| 1603-0 | cdcNHSN | 2.16.840.1.113883.6.277 | Clinical sepsis |
| 1604-8 | cdcNHSN | 2.16.840.1.113883.6.277 | Deep incisional primary SSI |
| 1605-5 | cdcNHSN | 2.16.840.1.113883.6.277 | Deep incisional secondary SSI |
| ... | | | |

Figure 58: Infection Condition Observation Example

<observation classCode="OBS" moodCode="EVN" negationInd="false">

<!-- C-CDA Problem Observation templateId -->

<templateId root="2.16.840.1.113883.10.20.22.4.4"/>

<!-- HAI Infection Condition Observation templateId -->

<templateId root="2.16.840.1.113883.10.20.5.6.135"/>

<id nullFlavor="NA"/>

<code codeSystem="2.16.840.1.113883.5.4" code="ASSERTION"/>

<statusCode code="completed"/>

<value xsi:type="CD"

codeSystem="2.16.840.1.113883.6.277"

codeSystemName="cdcNHSN"

code="1601-4"

displayName="Breast abscess or mastitis"/>

</observation>

Infection Contributed to Death Observation

[observation: identifier oid:2.16.840.1.113883.10.20.5.6.136 (closed)]

Table 164: Infection Contributed to Death Observation Contexts

| Contained By: | Contains: |
| --- | --- |
| [Death Observation](#E_Death_Observation) (optional) |  |

In some HAI Reports this observation is required in a Death Observation if the patient died.

Table 165: Infection Contributed to Death Observation Constraints Overview

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| XPath | Card. | Verb | Data Type | CONF# | Value |
| observation (identifier: oid:2.16.840.1.113883.10.20.5.6.136) | | | | | |
| @classCode | 1..1 | SHALL |  | [22164](#C_22164) | 2.16.840.1.113883.5.6 (HL7ActClass) = OBS |
| @moodCode | 1..1 | SHALL |  | [22165](#C_22165) | 2.16.840.1.113883.5.1001 (ActMood) = EVN |
| templateId | 1..1 | SHALL |  | [22166](#C_22166) |  |
| @root | 1..1 | SHALL |  | [22167](#C_22167) | 2.16.840.1.113883.10.20.5.6.136 |
| id | 1..1 | SHALL |  | [22168](#C_22168) |  |
| code | 1..1 | SHALL |  | [22170](#C_22170) |  |
| @code | 1..1 | SHALL | CS | [22174](#C_22174) | 2.16.840.1.113883.5.4 (ActCode) = ASSERTION |
| statusCode | 1..1 | SHALL |  | [22172](#C_22172) |  |
| @code | 1..1 | SHALL |  | [22173](#C_22173) | 2.16.840.1.113883.5.14 (ActStatus) = completed |

1. SHALL contain exactly one [1..1] @classCode="OBS" Observation (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 STATIC) (CONF:22164).
2. SHALL contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 STATIC) (CONF:22165).
3. SHALL contain exactly one [1..1] templateId (CONF:22166) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.6.136" (CONF:22167).
4. SHALL contain exactly one [1..1] id (CONF:22168).
   1. The value of the id SHALL  be the same as the value of the id element in the Infection-type Observation (templateId 2.16.840.1.113883.10.20.5.6.139) (CONF:22169).
5. SHALL contain exactly one [1..1] code (CONF:22170).
   1. This code SHALL contain exactly one [1..1] @code="ASSERTION" Assertion (CodeSystem: ActCode 2.16.840.1.113883.5.4) (CONF:22174).
6. SHALL contain exactly one [1..1] statusCode (CONF:22172).
   1. This statusCode SHALL contain exactly one [1..1] @code="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14 STATIC) (CONF:22173).

Figure 59: Infection Contributed to Death Observation Example

<!-- patient did die -->

<observation classCode="OBS" moodCode="EVN" negationInd="false">

...

<!--Infection did not contribute to death -->

<entryRelationship typeCode="CAUS" inversionInd="true" negationInd="true">

<observation classCode="OBS" moodCode="EVN">

<!-- HAI Infection Contributed to Death Observation templateId -->

<templateId root="2.16.840.1.113883.10.20.5.6.136" />

<id root="2.16.840.1.113883.3.117.1.1.5.2.1.1.5" extension="21987654321" />

<code codeSystem="2.16.840.1.113883.5.4" code="ASSERTION" />

<statusCode code="completed" />

</observation>

</entryRelationship>

</observation>

Infection Indicator Organizer

[organizer: identifier oid:2.16.840.1.113883.10.20.5.6.181 (closed)]

Table 166: Infection Indicator Organizer Contexts

| Contained By: | Contains: |
| --- | --- |
| [Details Section in an Evidence of Infection (Dialysis) Report (V2)](#S_Details_Section_in_an_Evidence_of_V2) (required) | [IV Antibiotic Start Clinical Statement](#E_IV_Antibiotic_Start_Clinical_Statemen)  [IV Antifungal Start Clinical Statement](#E_IV_Antifungal_Start_Clinical_Statemen)  [Positive Blood Culture Observation](#E_Positive_Blood_Culture_Observation)  [Pus, Redness, or Increased Swelling Observation](#E_Pus_Redness_or_Increased_Swelling_Obs) |

This organizer groups together four required infection indicators. An Evidence of Infection (Dialysis) Report is submitted when at least one is true. The infection indicators are recorded as facts associated with the patient but without asserting a causal relationship to an infection.

The organizer’s effectiveTime/low element represents the earliest date at which one of these indicators was observed. The NHSN protocol specifies this date represents:

   •  For pus/redness/swelling, the symptom onset date

   •  For IV antibiotic or antifungal start, the first day the substance was administered as an outpatient

   •  For positive blood culture, the day the specimen was drawn.

Table 167: Infection Indicator Organizer Constraints Overview

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| XPath | Card. | Verb | Data Type | CONF# | Value |
| organizer (identifier: oid:2.16.840.1.113883.10.20.5.6.181) | | | | | |
| @classCode | 1..1 | SHALL |  | [22222](#C_22222) | 2.16.840.1.113883.5.6 (HL7ActClass) = CLUSTER |
| @moodCode | 1..1 | SHALL |  | [22223](#C_22223) | 2.16.840.1.113883.5.1001 (ActMood) = EVN |
| templateId | 1..1 | SHALL |  | [22224](#C_22224) |  |
| @root | 1..1 | SHALL |  | [22225](#C_22225) | 2.16.840.1.113883.10.20.5.6.181 |
| id | 1..1 | SHALL |  | [22226](#C_22226) |  |
| @nullFlavor | 1..1 | SHALL |  | [22771](#C_22771) | NA |
| statusCode | 1..1 | SHALL |  | [22227](#C_22227) |  |
| @code | 1..1 | SHALL |  | [22228](#C_22228) | 2.16.840.1.113883.5.14 (ActStatus) = completed |
| effectiveTime | 1..1 | SHALL |  | [22229](#C_22229) |  |
| low | 1..1 | SHALL |  | [22230](#C_22230) |  |
| component | 1..1 | SHALL |  | [22231](#C_22231) |  |
| observation | 1..1 | SHALL |  | [22232](#C_22232) | [Pus, Redness, or Increased Swelling Observation (identifier: oid:2.16.840.1.113883.10.20.5.6.157](#E_Pus_Redness_or_Increased_Swelling_Obs) |
| component | 1..1 | SHALL |  | [22233](#C_22233) |  |
| substanceAdministration | 1..1 | SHALL |  | [22234](#C_22234) | [IV Antibiotic Start Clinical Statement (identifier: oid:2.16.840.1.113883.10.20.5.6.140](#E_IV_Antibiotic_Start_Clinical_Statemen) |
| component | 1..1 | SHALL |  | [22235](#C_22235) |  |
| substanceAdministration | 1..1 | SHALL |  | [22236](#C_22236) | [IV Antifungal Start Clinical Statement (identifier: oid:2.16.840.1.113883.10.20.5.6.141](#E_IV_Antifungal_Start_Clinical_Statemen) |
| component | 1..1 | SHALL |  | [22237](#C_22237) |  |
| observation | 1..1 | SHALL |  | [22238](#C_22238) | [Positive Blood Culture Observation (identifier: oid:2.16.840.1.113883.10.20.5.6.149](#E_Positive_Blood_Culture_Observation) |

1. SHALL contain exactly one [1..1] @classCode="CLUSTER" Cluster (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 STATIC) (CONF:22222).
2. SHALL contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 STATIC) (CONF:22223).
3. SHALL contain exactly one [1..1] templateId (CONF:22224) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.6.181" (CONF:22225).
4. SHALL contain exactly one [1..1] id (CONF:22226).
   1. This id SHALL contain exactly one [1..1] @nullFlavor="NA" (CONF:22771).
5. SHALL contain exactly one [1..1] statusCode (CONF:22227).
   1. This statusCode SHALL contain exactly one [1..1] @code="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14 STATIC) (CONF:22228).
6. SHALL contain exactly one [1..1] effectiveTime (CONF:22229).
   1. This effectiveTime SHALL contain exactly one [1..1] low (CONF:22230).
7. SHALL contain exactly one [1..1] component (CONF:22231) such that it
   1. SHALL contain exactly one [1..1] [Pus, Redness, or Increased Swelling Observation](#E_Pus_Redness_or_Increased_Swelling_Obs) (identifier: oid:2.16.840.1.113883.10.20.5.6.157) (CONF:22232).
8. SHALL contain exactly one [1..1] component (CONF:22233) such that it
   1. SHALL contain exactly one [1..1] [IV Antibiotic Start Clinical Statement](#E_IV_Antibiotic_Start_Clinical_Statemen) (identifier: oid:2.16.840.1.113883.10.20.5.6.140) (CONF:22234).
9. SHALL contain exactly one [1..1] component (CONF:22235) such that it
   1. SHALL contain exactly one [1..1] [IV Antifungal Start Clinical Statement](#E_IV_Antifungal_Start_Clinical_Statemen) (identifier: oid:2.16.840.1.113883.10.20.5.6.141) (CONF:22236).
10. SHALL contain exactly one [1..1] component (CONF:22237) such that it
    1. SHALL contain exactly one [1..1] [Positive Blood Culture Observation](#E_Positive_Blood_Culture_Observation) (identifier: oid:2.16.840.1.113883.10.20.5.6.149) (CONF:22238).

Figure 60: Infection Indicator Organizer Example

<organizer classCode="CLUSTER" moodCode="EVN”>

<templateId root=”2.16.840.1.113883.10.20.5.6.181”/>

<statusCode code="completed"/>

<effectiveTime>

<low value=”20080404”/>

</effectiveTime>

<component>

<observation classCode="OBS" moodCode="EVN" negationInd="false">

<!-- C-CDA Problem Observation templateId -->

<templateId root="2.16.840.1.113883.10.20.22.4.4"/>

<!-- HAI Pus, Redness, or Increased Swelling Observation templateId-->

<templateId root="2.16.840.1.113883.10.20.5.6.157"/>

...

</observation>

</component>

<component>

<substanceAdministration classCode="SBADM" moodCode="EVN" negationInd="false">

<!-- C-CDA Medication Activity templateId -->

<templateId root="2.16.840.1.113883.10.20.22.4.16"/>

<!-- HAI Antibiotic Start Clinical Statement templateId -->

<templateId root="2.16.840.1.113883.10.20.5.6.140"/>

...

</substanceAdministration>

</component>

<component>

<substanceAdministration classCode="SBADM" moodCode="EVN" negationInd="false">

<!—- C-CDA Medication Activity templateId -->

<templateId root="2.16.840.1.113883.10.20.22.4.16"/>

<!-- HAI IV antifungal start clinical statement templateId -->

<templateId root="2.16.840.1.113883.10.20.5.6.141"/>

...

</substanceAdministration >

</component>

<component>

<observation classCode="OBS" moodCode="EVN" negationInd="false">

<!-- C-CDA Problem Observation templateId -->

<templateId root="2.16.840.1.113883.10.20.22.4.4"/>

<!-- HAI Positive Blood Culture Observation templateId -->

<templateId root="2.16.840.1.113883.10.20.5.6.149"/>

...

</observation>

</component>

...

</organizer>

Infection Present at the Time of Surgery Observation

[observation: identifier oid:2.16.840.1.113883.10.20.5.6.205 (closed)]

Table 168: Infection Present at the Time of Surgery Observation Contexts

| Contained By: | Contains: |
| --- | --- |
| [Infection Details Section in an SSI Report (V2)](#S_Infection_Details_Section_in_an_SSI_V2) (required) |  |

This template observation records whether or not an infection was present at the time that a surgical procedure was performed. It is based on the C-CDA Problem Observation template.

When an infection was present at the time that a surgical procedure was performed, set the value of @negationInd to false. When an infection was not present at the time that a surgical procedure was performed, set the value of @negationInd to true.

Table 169: Infection Present at the Time of Surgery Observation Constraints Overview

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| XPath | Card. | Verb | Data Type | CONF# | Value |
| observation (identifier: oid:2.16.840.1.113883.10.20.5.6.205) | | | | | |
| @classCode | 1..1 | SHALL |  | [30257](#C_30257) | 2.16.840.1.113883.5.6 (HL7ActClass) = OBS |
| @moodCode | 1..1 | SHALL |  | [30258](#C_30258) | EVN |
| @negationInd | 1..1 | SHALL |  | [30259](#C_30259) |  |
| templateId | 1..1 | SHALL |  | [30299](#C_30299) |  |
| @root | 1..1 | SHALL |  | [30300](#C_30300) | 2.16.840.1.113883.10.20.22.4.4 |
| templateId | 1..1 | SHALL |  | [30261](#C_30261) |  |
| @root | 1..1 | SHALL |  | [30262](#C_30262) | 2.16.840.1.113883.10.20.5.6.205 |
| id | 1..1 | SHALL |  | [30263](#C_30263) |  |
| @nullFlavor | 1..1 | SHALL |  | [30264](#C_30264) | NA |
| code | 1..1 | SHALL |  | [30265](#C_30265) |  |
| @code | 1..1 | SHALL |  | [30266](#C_30266) | ASSERTION |
| @codeSystem | 1..1 | SHALL |  | [30267](#C_30267) | 2.16.840.1.113883.5.4 (ActCode) = 2.16.840.1.113883.5.4 |
| statusCode | 1..1 | SHALL |  | [30268](#C_30268) |  |
| @code | 1..1 | SHALL |  | [30269](#C_30269) | 2.16.840.1.113883.5.14 (ActStatus) = completed |
| value | 1..1 | SHALL | CD | [30270](#C_30270) |  |
| @code | 1..1 | SHALL |  | [30271](#C_30271) | 2.16.840.1.113883.6.277 (cdcNHSN) = 1237-7 |
| @codeSystem | 1..1 | SHALL |  | [30272](#C_30272) | 2.16.840.1.113883.6.277 (cdcNHSN) = 2.16.840.1.113883.6.277 |

1. Conforms to Problem Observation template (identifier: oid:2.16.840.1.113883.10.20.22.4.4).
2. SHALL contain exactly one [1..1] @classCode="OBS" (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6) (CONF:30257).
3. SHALL contain exactly one [1..1] @moodCode="EVN" (CONF:30258).
4. SHALL contain exactly one [1..1] @negationInd (CONF:30259).
   1. If an infection was present at the time that a surgical procedure was performed, the value of @negationInd SHALL be false. If an infection was not present at the time that a surgical procedure was performed, the value of @negationInd SHALL be true (CONF:30260).
5. SHALL contain exactly one [1..1] templateId (CONF:30299) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.4.4" (CONF:30300).
6. SHALL contain exactly one [1..1] templateId (CONF:30261) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.6.205" (CONF:30262).
7. SHALL contain exactly one [1..1] id (CONF:30263).
   1. This id SHALL contain exactly one [1..1] @nullFlavor="NA" (CONF:30264).
8. SHALL contain exactly one [1..1] code (CONF:30265).
   1. This code SHALL contain exactly one [1..1] @code="ASSERTION" (CONF:30266).
   2. This code SHALL contain exactly one [1..1] @codeSystem="2.16.840.1.113883.5.4" (CodeSystem: ActCode 2.16.840.1.113883.5.4) (CONF:30267).
9. SHALL contain exactly one [1..1] statusCode (CONF:30268).
   1. This statusCode SHALL contain exactly one [1..1] @code="completed" (CodeSystem: ActStatus 2.16.840.1.113883.5.14) (CONF:30269).
10. SHALL contain exactly one [1..1] value with @xsi:type="CD" (CONF:30270).
    1. This value SHALL contain exactly one [1..1] @code="1237-7" Infection present at the time of surgery (CodeSystem: cdcNHSN 2.16.840.1.113883.6.277) (CONF:30271).
    2. This value SHALL contain exactly one [1..1] @codeSystem="2.16.840.1.113883.6.277" (CodeSystem: cdcNHSN 2.16.840.1.113883.6.277) (CONF:30272).

Figure 61: Infection Present at Time of Surgery Observation Example

<!--

If an infection was present at the time that a surgical procedure

was performed, the value of @negationInd SHALL be false.

If an infection was not present at the time that a surgical

procedure was performed, the value of @negationInd SHALL be true

-->

<observation classCode="OBS" moodCode="EVN" negationInd="false">

<!-- C-CDA Problem Observation -->

<templateId root="2.16.840.1.113883.10.20.22.4.4" />

<!-- Infection Present at the Time of Surgery Observation -->

<templateId root="2.16.840.1.113883.10.20.5.6.205" />

<id nullFlavor="NA" />

<code codeSystem="2.16.840.1.113883.5.4" code="ASSERTION" />

<statusCode code="completed" />

<value xsi:type="CD"

code="1237-7"

displayName="Infection present at the time of surgery"

codeSystem="2.16.840.1.113883.6.277"

codeSystemName="cdcNHSN" />

</observation>

Infection Risk Factors Measurement Observation

[observation: identifier oid:2.16.840.1.113883.10.20.5.6.137 (closed)]

Table 170: Infection Risk Factors Measurement Observation Contexts

| Contained By: | Contains: |
| --- | --- |
| [Infection Risk Factors Section in a BSI Report](#S_Infection_Risk_Factors_Section_in_a_B) (optional) |  |

This observation records a risk factor that reports a value, such as birth weight.

The BSI report uses this observation. The NHSN protocol specifies which measurements are required for each report type. Those rules do not form part of the guide. The table below shows requirements at the time of publication.

Table 171: Infection Risk Factors Measurement Observation Constraints Overview

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| XPath | Card. | Verb | Data Type | CONF# | Value |
| observation (identifier: oid:2.16.840.1.113883.10.20.5.6.137) | | | | | |
| @classCode | 1..1 | SHALL |  | [19769](#C_19769) | 2.16.840.1.113883.5.6 (HL7ActClass) = OBS |
| @moodCode | 1..1 | SHALL |  | [19770](#C_19770) | 2.16.840.1.113883.5.1001 (ActMood) = EVN |
| @negationInd | 1..1 | SHALL |  | [19771](#C_19771) | false |
| templateId | 1..1 | SHALL |  | [28247](#C_28247) |  |
| @root | 1..1 | SHALL |  | [28248](#C_28248) | 2.16.840.1.113883.10.20.22.4.27 |
| templateId | 1..1 | SHALL |  | [19780](#C_19780) |  |
| @root | 1..1 | SHALL |  | [19781](#C_19781) | 2.16.840.1.113883.10.20.5.6.137 |
| id | 1..1 | SHALL |  | [19782](#C_19782) |  |
| @nullFlavor | 1..1 | SHALL |  | [22759](#C_22759) | NA |
| code | 1..1 | SHALL |  | [19772](#C_19772) |  |
| @code | 1..1 | SHALL |  | [19773](#C_19773) | 364589006 |
| @codeSystem | 1..1 | SHALL |  | [28104](#C_28104) | 2.16.840.1.113883.6.96 (SNOMED CT) = 2.16.840.1.113883.6.96 |
| statusCode | 1..1 | SHALL |  | [19774](#C_19774) |  |
| @code | 1..1 | SHALL |  | [19775](#C_19775) | 2.16.840.1.113883.5.14 (ActStatus) = completed |
| effectiveTime | 1..1 | SHALL |  | [19899](#C_19899) |  |
| @nullFlavor | 1..1 | SHALL |  | [22760](#C_22760) | NA |
| value | 1..1 | SHALL | PQ | [19776](#C_19776) |  |

1. Conforms to Vital Sign Observation template (identifier: oid:2.16.840.1.113883.10.20.22.4.27).
2. SHALL contain exactly one [1..1] @classCode="OBS" Observation (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 STATIC) (CONF:19769).
3. SHALL contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 STATIC) (CONF:19770).
4. SHALL contain exactly one [1..1] @negationInd="false" (CONF:19771).
5. SHALL contain exactly one [1..1] templateId (CONF:28247) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.4.27" (CONF:28248).
6. SHALL contain exactly one [1..1] templateId (CONF:19780) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.6.137" (CONF:19781).
7. SHALL contain exactly one [1..1] id (CONF:19782).
   1. This id SHALL contain exactly one [1..1] @nullFlavor="NA" (CONF:22759).
8. SHALL contain exactly one [1..1] code (CONF:19772).
   1. This code SHALL contain exactly one [1..1] @code="364589006" Birth weight (CONF:19773).
   2. This code SHALL contain exactly one [1..1] @codeSystem="2.16.840.1.113883.6.96" (CodeSystem: SNOMED CT 2.16.840.1.113883.6.96) (CONF:28104).
9. SHALL contain exactly one [1..1] statusCode (CONF:19774).
   1. This statusCode SHALL contain exactly one [1..1] @code="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14 STATIC) (CONF:19775).
10. SHALL contain exactly one [1..1] effectiveTime (CONF:19899).
    1. This effectiveTime SHALL contain exactly one [1..1] @nullFlavor="NA" (CONF:22760).
11. SHALL contain exactly one [1..1] value with @xsi:type="PQ" (CONF:19776).

Figure 62: Infection Risk Factors Measurement Observation Example

<observation classCode="OBS" moodCode="EVN" negationInd="false">

<!-- C-CDA Vital Sign Observation templateId -->

<templateId root="2.16.840.1.113883.10.20.22.4.27"/>

<!-- HAI Infection Risk Factors Measurement Observation templateId -->

<templateId root="2.16.840.1.113883.10.20.5.6.137"/>

<id nullFlavor="NA"/>

<code code="364589006"

codeSystem="2.16.840.1.113883.6.96"

displayName="Birth weight"/>

<statusCode code="completed"/>

<effectiveTime nullFlavor="NA"/>

<value xsi:type="PQ" value="700" unit="g"/>

</observation>

Infection Risk Factors Observation

[observation: identifier oid:2.16.840.1.113883.10.20.5.6.138 (closed)]

Table 172: Infection Risk Factors Observation Contexts

| Contained By: | Contains: |
| --- | --- |
| [Infection Risk Factors Section in a BSI Report](#S_Infection_Risk_Factors_Section_in_a_B) (required) | [Device Insertion Time and Location Procedure](#E_Device_Insertion_Time_and_Location_Pr) |

This observation records the presence of infection risk factors. See also the Infection Risk Factors Measurement Observation.

The NHSN Infection Risk Factors Value Set includes infection risk factors for all reports in this guide. The NHSN protocol specifies which risk factors are to be recorded in each report type. Those rules do not form part of the guide.

If the risk factor is present, set the value of @negationInd to false. If the risk factor is not present, set the value of @negationInd to true.

Table 173: Infection Risk Factors Observation Constraints Overview

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| XPath | Card. | Verb | Data Type | CONF# | Value |
| observation (identifier: oid:2.16.840.1.113883.10.20.5.6.138) | | | | | |
| @classCode | 1..1 | SHALL |  | [19800](#C_19800) | 2.16.840.1.113883.5.6 (HL7ActClass) = OBS |
| @moodCode | 1..1 | SHALL |  | [19801](#C_19801) | 2.16.840.1.113883.5.1001 (ActMood) = EVN |
| @negationInd | 1..1 | SHALL |  | [19802](#C_19802) |  |
| templateId | 1..1 | SHALL |  | [28249](#C_28249) |  |
| @root | 1..1 | SHALL |  | [28250](#C_28250) | 2.16.840.1.113883.10.20.22.4.4 |
| templateId | 1..1 | SHALL |  | [19814](#C_19814) |  |
| @root | 1..1 | SHALL |  | [19816](#C_19816) | 2.16.840.1.113883.10.20.5.6.138 |
| id | 1..1 | SHALL |  | [19817](#C_19817) |  |
| @nullFlavor | 1..1 | SHALL |  | [22761](#C_22761) | NA |
| code | 1..1 | SHALL |  | [19803](#C_19803) |  |
| @code | 1..1 | SHALL |  | [19804](#C_19804) | 2.16.840.1.113883.5.4 (ActCode) = ASSERTION |
| statusCode | 1..1 | SHALL |  | [19805](#C_19805) |  |
| @code | 1..1 | SHALL |  | [19806](#C_19806) | 2.16.840.1.113883.5.14 (ActStatus) = completed |
| value | 1..1 | SHALL | CD | [19807](#C_19807) | 2.16.840.1.113883.13.6 (NHSNInfectionRiskFactorsCode) |
| entryRelationship | 0..1 | MAY |  | [19809](#C_19809) |  |
| @typeCode | 1..1 | SHALL |  | [19810](#C_19810) | REFR |
| @inversionInd | 1..1 | SHALL |  | [19811](#C_19811) | true |
| procedure | 1..1 | SHALL |  | [19812](#C_19812) | [Device Insertion Time and Location Procedure (identifier: oid:2.16.840.1.113883.10.20.5.6.122](#E_Device_Insertion_Time_and_Location_Pr) |

1. Conforms to Problem Observation template (identifier: oid:2.16.840.1.113883.10.20.22.4.4).
2. SHALL contain exactly one [1..1] @classCode="OBS" Observation (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 STATIC) (CONF:19800).
3. SHALL contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 STATIC) (CONF:19801).
4. SHALL contain exactly one [1..1] @negationInd (CONF:19802).
5. SHALL contain exactly one [1..1] templateId (CONF:28249) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.4.4" (CONF:28250).
6. SHALL contain exactly one [1..1] templateId (CONF:19814) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.6.138" (CONF:19816).
7. SHALL contain exactly one [1..1] id (CONF:19817).
   1. This id SHALL contain exactly one [1..1] @nullFlavor="NA" (CONF:22761).
8. SHALL contain exactly one [1..1] code (CONF:19803).
   1. This code SHALL contain exactly one [1..1] @code="ASSERTION" Assertion (CodeSystem: ActCode 2.16.840.1.113883.5.4 STATIC) (CONF:19804).
9. SHALL contain exactly one [1..1] statusCode (CONF:19805).
   1. This statusCode SHALL contain exactly one [1..1] @code="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14 STATIC) (CONF:19806).
10. SHALL contain exactly one [1..1] value with @xsi:type="CD", where the code SHALL be selected from ValueSet [NHSNInfectionRiskFactorsCode](#NHSNInfectionRiskFactorsCode) 2.16.840.1.113883.13.6 STATIC 2012-08-09 (CONF:19807).
11. MAY contain zero or one [0..1] entryRelationship (CONF:19809).
    1. The entryRelationship, if present, SHALL contain exactly one [1..1] @typeCode="REFR" (CONF:19810).
    2. The entryRelationship, if present, SHALL contain exactly one [1..1] @inversionInd="true" (CONF:19811).
    3. The entryRelationship, if present, SHALL contain exactly one [1..1] [Device Insertion Time and Location Procedure](#E_Device_Insertion_Time_and_Location_Pr) (identifier: oid:2.16.840.1.113883.10.20.5.6.122) (CONF:19812).

Table 174: NHSNInfectionRiskFactorsCode

|  |  |  |  |
| --- | --- | --- | --- |
| Value Set: NHSNInfectionRiskFactorsCode 2.16.840.1.113883.13.6  Code System: cdcNHSN 2.16.840.1.113883.6.277 | | | |
| Code | Code System | Code System OID | Print Name |
| 1006-6 | cdcNHSN | 2.16.840.1.113883.6.277 | central line including umbilical catheter |
| 1002-5 | cdcNHSN | 2.16.840.1.113883.6.277 | (unspecified) central line |
| 1003-3 | cdcNHSN | 2.16.840.1.113883.6.277 | permanent central line |
| 1005-8 | cdcNHSN | 2.16.840.1.113883.6.277 | temporary central line |

Figure 63: Infection Risk Factors Observation Example

<observation classCode="OBS" moodCode="EVN" negationInd="false">

<!-- C-CDA Problem Observation templateId -->

<templateId root="2.16.840.1.113883.10.20.22.4.4"/>

<!-- HAI Infection Risk Factors Observation templateId -->

<templateId root="2.16.840.1.113883.10.20.5.6.138"/>

<id nullFlavor="NA"/>

<code codeSystem="2.16.840.1.113883.5.4" code="ASSERTION"/>

<statusCode code="completed"/>

<value xsi:type="CD"

codeSystem="2.16.840.1.113883.6.277"

codeSystemName="cdcNHSN"

code="1003-3"

displayName="permanent central line"/>

</observation>

Infection-Type Observation

[observation: identifier oid:2.16.840.1.113883.10.20.5.6.139 (closed)]

Table 175: Infection-Type Observation Contexts

| Contained By: | Contains: |
| --- | --- |
| [Infection Details Section in a BSI Report](#S_Infection_Details_Section_in_a_BSI_Re) (required)  [Infection Details Section in a UTI Report](#S_Infection_Details_Section_in_a_UTI_Re) (required)  [Infection Details Section in an SSI Report (V2)](#S_Infection_Details_Section_in_an_SSI_V2) (required) | [Bloodstream Infection Evidence Type Observation](#E_Bloodstream_Infection_Evidence_Type_O)  [Criteria of Diagnosis Organizer](#E_Criteria_of_Diagnosis_Organizer)  [Infection Condition Observation](#E_Infection_Condition_Observation)  [Occasion of HAI Detection Observation](#E_Occasion_of_HAI_Detection_Observation)  [Secondary Bloodstream Infection Observation](#E_Secondary_Bloodstream_Infection_Obser) |

The Infection-Type Observation is used in all infection reports. It is an assertion of the infection type, and contains entryRelationships to record the “criteria”—the information used to arrive at a diagnosis of the infection type.

The value of the id element must be globally unique and need not be an identifier used outside the document. Its function within the document is to identify this infection as being the same as that recorded in the Infection Contributed to Death Observation, if present.

Table 176: Infection-Type Observation Constraints Overview

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| XPath | Card. | Verb | Data Type | CONF# | Value |
| observation (identifier: oid:2.16.840.1.113883.10.20.5.6.139) | | | | | |
| @classCode | 1..1 | SHALL |  | [21181](#C_21181) | 2.16.840.1.113883.5.6 (HL7ActClass) = OBS |
| @moodCode | 1..1 | SHALL |  | [21182](#C_21182) | 2.16.840.1.113883.5.1001 (ActMood) = EVN |
| @negationInd | 1..1 | SHALL |  | [21183](#C_21183) | false |
| templateId | 1..1 | SHALL |  | [28251](#C_28251) |  |
| @root | 1..1 | SHALL |  | [28252](#C_28252) | 2.16.840.1.113883.10.20.22.4.4 |
| templateId | 1..1 | SHALL |  | [21239](#C_21239) |  |
| @root | 1..1 | SHALL |  | [21240](#C_21240) | 2.16.840.1.113883.10.20.5.6.139 |
| id | 1..1 | SHALL |  | [21184](#C_21184) |  |
| code | 1..1 | SHALL |  | [21185](#C_21185) |  |
| @code | 1..1 | SHALL |  | [21186](#C_21186) | ASSERTION |
| @codeSystem | 1..1 | SHALL |  | [28186](#C_28186) | 2.16.840.1.113883.5.4 (ActCode) = 2.16.840.1.113883.5.4 |
| statusCode | 1..1 | SHALL |  | [21187](#C_21187) |  |
| @code | 1..1 | SHALL |  | [21188](#C_21188) | 2.16.840.1.113883.5.14 (ActStatus) = completed |
| effectiveTime | 1..1 | SHALL |  | [21189](#C_21189) |  |
| low | 1..1 | SHALL |  | [28190](#C_28190) |  |
| value | 1..1 | SHALL | CD | [21190](#C_21190) | 2.16.840.1.113883.13.20 (NHSNInfectionTypeCode) |
| entryRelationship | 1..1 | SHALL |  | [21192](#C_21192) |  |
| @typeCode | 1..1 | SHALL |  | [21193](#C_21193) | 2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = SPRT |
| organizer | 1..1 | SHALL |  | [21194](#C_21194) | [Criteria of Diagnosis Organizer (identifier: oid:2.16.840.1.113883.10.20.5.6.180](#E_Criteria_of_Diagnosis_Organizer) |
| entryRelationship | 0..1 | MAY |  | [23217](#C_23217) |  |
| @typeCode | 1..1 | SHALL |  | [23218](#C_23218) | 2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR |
| observation | 1..1 | SHALL |  | [23219](#C_23219) | [Infection Condition Observation (identifier: oid:2.16.840.1.113883.10.20.5.6.135](#E_Infection_Condition_Observation) |
| entryRelationship | 0..1 | MAY |  | [23221](#C_23221) |  |
| @typeCode | 1..1 | SHALL |  | [23222](#C_23222) | 2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR |
| observation | 1..1 | SHALL |  | [23223](#C_23223) | [Secondary Bloodstream Infection Observation (identifier: oid:2.16.840.1.113883.10.20.5.6.160](#E_Secondary_Bloodstream_Infection_Obser) |
| entryRelationship | 0..1 | MAY |  | [23225](#C_23225) |  |
| @typeCode | 1..1 | SHALL |  | [23226](#C_23226) | 2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = COMP |
| observation | 1..1 | SHALL |  | [23227](#C_23227) | [Bloodstream Infection Evidence Type Observation (identifier: oid:2.16.840.1.113883.10.20.5.6.114](#E_Bloodstream_Infection_Evidence_Type_O) |
| entryRelationship | 0..1 | MAY |  | [23229](#C_23229) |  |
| @typeCode | 1..1 | SHALL |  | [23230](#C_23230) | 2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = COMP |
| observation | 1..1 | SHALL |  | [23231](#C_23231) | [Occasion of HAI Detection Observation (identifier: oid:2.16.840.1.113883.10.20.5.6.144](#E_Occasion_of_HAI_Detection_Observation) |

1. Conforms to Problem Observation template (identifier: oid:2.16.840.1.113883.10.20.22.4.4).
2. SHALL contain exactly one [1..1] @classCode="OBS" Observation (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 STATIC) (CONF:21181).
3. SHALL contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 STATIC) (CONF:21182).
4. SHALL contain exactly one [1..1] @negationInd="false" (CONF:21183).
5. SHALL contain exactly one [1..1] templateId (CONF:28251) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.4.4" (CONF:28252).
6. SHALL contain exactly one [1..1] templateId (CONF:21239) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.6.139" (CONF:21240).
7. SHALL contain exactly one [1..1] id (CONF:21184).
8. SHALL contain exactly one [1..1] code (CONF:21185).
   1. This code SHALL contain exactly one [1..1] @code="ASSERTION" Assertion (CONF:21186).
   2. This code SHALL contain exactly one [1..1] @codeSystem="2.16.840.1.113883.5.4" (CodeSystem: ActCode 2.16.840.1.113883.5.4) (CONF:28186).
9. SHALL contain exactly one [1..1] statusCode (CONF:21187).
   1. This statusCode SHALL contain exactly one [1..1] @code="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14 STATIC) (CONF:21188).
10. SHALL contain exactly one [1..1] effectiveTime (CONF:21189).
    1. This effectiveTime SHALL contain exactly one [1..1] low (CONF:28190).
11. SHALL contain exactly one [1..1] value with @xsi:type="CD", where the code SHALL be selected from ValueSet [NHSNInfectionTypeCode](#NHSNInfectionTypeCode) 2.16.840.1.113883.13.20 DYNAMIC (CONF:21190).
12. SHALL contain exactly one [1..1] entryRelationship (CONF:21192) such that it
    1. SHALL contain exactly one [1..1] @typeCode="SPRT" Supports (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002 STATIC) (CONF:21193).
    2. SHALL contain exactly one [1..1] [Criteria of Diagnosis Organizer](#E_Criteria_of_Diagnosis_Organizer) (identifier: oid:2.16.840.1.113883.10.20.5.6.180) (CONF:21194).
13. MAY contain zero or one [0..1] entryRelationship (CONF:23217) such that it
    1. SHALL contain exactly one [1..1] @typeCode="REFR" (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002) (CONF:23218).
    2. SHALL contain exactly one [1..1] [Infection Condition Observation](#E_Infection_Condition_Observation) (identifier: oid:2.16.840.1.113883.10.20.5.6.135) (CONF:23219).
    3. If the report is an Infection-type Report and the infection type is not BSI, an entryRelationship element SHALL be present containing an Infection Condition Observation (CONF:23220).
14. MAY contain zero or one [0..1] entryRelationship (CONF:23221) such that it
    1. SHALL contain exactly one [1..1] @typeCode="REFR" (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002) (CONF:23222).
    2. SHALL contain exactly one [1..1] [Secondary Bloodstream Infection Observation](#E_Secondary_Bloodstream_Infection_Obser) (identifier: oid:2.16.840.1.113883.10.20.5.6.160) (CONF:23223).
    3. If the report is an Infection-type Report and the infection type is not BSI, an entryRelationship element SHALL be present containing a Secondary Bloodstream Infection Observation (CONF:23224).
15. MAY contain zero or one [0..1] entryRelationship (CONF:23225) such that it
    1. SHALL contain exactly one [1..1] @typeCode="COMP" (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002) (CONF:23226).
    2. SHALL contain exactly one [1..1] [Bloodstream Infection Evidence Type Observation](#E_Bloodstream_Infection_Evidence_Type_O) (identifier: oid:2.16.840.1.113883.10.20.5.6.114) (CONF:23227).
    3. If the report is a BSI Report, an entryRelationship element SHALL be present containing a Bloodstream Infection Evidence Type Observation (CONF:23228).
16. MAY contain zero or one [0..1] entryRelationship (CONF:23229) such that it
    1. SHALL contain exactly one [1..1] @typeCode="COMP" (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002) (CONF:23230).
    2. SHALL contain exactly one [1..1] [Occasion of HAI Detection Observation](#E_Occasion_of_HAI_Detection_Observation) (identifier: oid:2.16.840.1.113883.10.20.5.6.144) (CONF:23231).
    3. If the report is an SSI Report, an entryRelationship element SHALL be present containing an Occasion of HAI Detection Observation (CONF:23232).

Table 177: NHSNInfectionTypeCode

|  |  |  |  |
| --- | --- | --- | --- |
| Value Set: NHSNInfectionTypeCode 2.16.840.1.113883.13.20  Code System: cdcNHSN 2.16.840.1.113883.6.277 or SNOMED CT 2.16.840.1.113883.6.96 | | | |
| Code | Code System | Code System OID | Print Name |
| 19824006 | SNOMED CT | 2.16.840.1.113883.6.96 | Skin or Soft Tissue Infection |
| 50417007 | SNOMED CT | 2.16.840.1.113883.6.96 | Lower respiratory Infection |
| 68566005 | SNOMED CT | 2.16.840.1.113883.6.96 | Urinary Tract Infection |
| 91302008 | SNOMED CT | 2.16.840.1.113883.6.96 | Systemic Infection |
| 128116006 | SNOMED CT | 2.16.840.1.113883.6.96 | Infection of the Central Nervous System |
| 128402005 | SNOMED CT | 2.16.840.1.113883.6.96 | Infection of the cardiovascular system |
| 312158001 | SNOMED CT | 2.16.840.1.113883.6.96 | Gastrointestinal Infection |
| 431193003 | SNOMED CT | 2.16.840.1.113883.6.96 | Bloodstream Infection |
| 433202001 | SNOMED CT | 2.16.840.1.113883.6.96 | Surgical Site Infection |
| 1792-1 | cdcNHSN | 2.16.840.1.113883.6.277 | MDRO Infection |
| 1795-4 | cdcNHSN | 2.16.840.1.113883.6.277 | CDAD Infection |
| 1796-2 | cdcNHSN | 2.16.840.1.113883.6.277 | Infection of the Reproduction System |
| 1797-0 | cdcNHSN | 2.16.840.1.113883.6.277 | Infection of the Ear/Eyes/Nose or Throat |
| 1798-8 | cdcNHSN | 2.16.840.1.113883.6.277 | Bone or Joint Infection |

Figure 64: Infection-Type Observation Example

<observation classCode="OBS" moodCode="EVN" negationInd="false">

<!-- C-CDA Problem Observation templateId -->

<templateId root="2.16.840.1.113883.10.20.22.4.4"/>

<!-- HAI Infection Type Observation templateId -->

<templateId root="2.16.840.1.113883.10.20.5.6.139"/>

<!-- UUID for the infection being reported-->

<id root="2.16.840.1.113883.3.117.1.1.5.2.1.1.5" extension="21987654321"/>

<code code="ASSERTION" codeSystem="2.16.840.1.113883.5.4"/>

<statusCode code="completed"/>

<effectiveTime>

<low value="20080807" />

</effectiveTime>

<value xsi:type="CD"

codeSystem="2.16.840.1.113883.6.96"

codeSystemName="SNOMED CT"

code="431193003"

displayName="Blood Stream Infection"/>

<!-- Criteria of Diagnosis Organizer -->

<entryRelationship typeCode="SPRT">

<organizer classCode="CLUSTER" moodCode="EVN">

<templateId root="2.16.840.1.113883.10.20.5.6.180"/>

...

</organizer>

</entryRelationship>

...

</observation>

Isolate Susceptibility Tests Organizer

[organizer: identifier oid:2.16.840.1.113883.10.20.5.6.201 (closed)]

Table 178: Isolate Susceptibility Tests Organizer Contexts

| Contained By: | Contains: |
| --- | --- |
| [Specimen Collection Procedure (ARO)](#E_Specimen_Collection_Procedure_ARO) (required) | [Antimicrobial Susceptibility Isolate Participant](#Antimicrobial_Susceptibility_Isolate_Pa)  [Antimicrobial Susceptibility Tests Organizer](#E_Antimicrobial_Susceptibility_Tests_Or)  [ARO Staph Aureus Specific Tests Organizer](#E_ARO_Staph_Aureus_Specific_Tests_Organ) |

This entry records a laboratory-identified microorganism isolate and details of the antimicrobial susceptibility tests performed on that isolate.

Additionally, it records the unique isolate identifier for purposes of laboratory tracking. Special tests done on isolates of Staphylococcus aureus are also recorded here. The ARO Staph Aureus Specific Tests Organizer is omitted from this clinical statement if Staph. aureus is NOT the identified pathogen (i.e., the participant subject).

Table 179: Isolate Susceptibility Tests Organizer Constraints Overview

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| XPath | Card. | Verb | Data Type | CONF# | Value |
| organizer (identifier: oid:2.16.840.1.113883.10.20.5.6.201) | | | | | |
| @classCode | 1..1 | SHALL |  | [27120](#C_27120) | 2.16.840.1.113883.5.6 (HL7ActClass) = CLUSTER |
| @moodCode | 1..1 | SHALL |  | [27121](#C_27121) | 2.16.840.1.113883.5.1001 (ActMood) = EVN |
| templateId | 1..1 | SHALL |  | [27122](#C_27122) |  |
| @root | 1..1 | SHALL |  | [27123](#C_27123) | 2.16.840.1.113883.10.20.5.6.201 |
| id | 1..\* | SHALL |  | [27124](#C_27124) |  |
| @nullFlavor | 1..1 | SHALL |  | [27125](#C_27125) | NA |
| code | 1..1 | SHALL |  | [27126](#C_27126) |  |
| @code | 1..1 | SHALL |  | [27127](#C_27127) | 2.16.840.1.113883.6.1 (LOINC) = 18725-2 |
| statusCode | 1..1 | SHALL |  | [27128](#C_27128) |  |
| @code | 1..1 | SHALL |  | [27129](#C_27129) | 2.16.840.1.113883.5.14 (ActStatus) = completed |
| participant | 1..1 | SHALL |  | [27130](#C_27130) | [Antimicrobial Susceptibility Isolate Participant (identifier: oid:2.16.840.1.113883.10.20.5.6.202](#Antimicrobial_Susceptibility_Isolate_Pa) |
| component | 0..1 | MAY |  | [27156](#C_27156) |  |
| organizer | 1..1 | SHALL |  | [27157](#C_27157) | [ARO Staph Aureus Specific Tests Organizer (identifier: oid:2.16.840.1.113883.10.20.5.6.190](#E_ARO_Staph_Aureus_Specific_Tests_Organ) |
| component | 1..\* | SHALL |  | [27158](#C_27158) |  |
| organizer | 1..1 | SHALL |  | [27159](#C_27159) | [Antimicrobial Susceptibility Tests Organizer (identifier: oid:2.16.840.1.113883.10.20.5.6.177](#E_Antimicrobial_Susceptibility_Tests_Or) |

1. SHALL contain exactly one [1..1] @classCode="CLUSTER" (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6) (CONF:27120).
2. SHALL contain exactly one [1..1] @moodCode="EVN" (CodeSystem: ActMood 2.16.840.1.113883.5.1001) (CONF:27121).
3. SHALL contain exactly one [1..1] templateId (CONF:27122) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.6.201" (CONF:27123).
4. SHALL contain at least one [1..\*] id (CONF:27124).
   1. Such ids SHALL contain exactly one [1..1] @nullFlavor="NA" (CONF:27125).
5. SHALL contain exactly one [1..1] code (CONF:27126).
   1. This code SHALL contain exactly one [1..1] @code="18725-2" Microbiology studies (CodeSystem: LOINC 2.16.840.1.113883.6.1) (CONF:27127).
6. SHALL contain exactly one [1..1] statusCode (CONF:27128).
   1. This statusCode SHALL contain exactly one [1..1] @code="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14) (CONF:27129).
7. SHALL contain exactly one [1..1] [Antimicrobial Susceptibility Isolate Participant](#Antimicrobial_Susceptibility_Isolate_Pa) (identifier: oid:2.16.840.1.113883.10.20.5.6.202) (CONF:27130).

This component is included only if the isolate is Staphylococcus aureus.

1. MAY contain zero or one [0..1] component (CONF:27156) such that it
   1. SHALL contain exactly one [1..1] [ARO Staph Aureus Specific Tests Organizer](#E_ARO_Staph_Aureus_Specific_Tests_Organ) (identifier: oid:2.16.840.1.113883.10.20.5.6.190) (CONF:27157).
2. SHALL contain at least one [1..\*] component (CONF:27158) such that it
   1. SHALL contain exactly one [1..1] [Antimicrobial Susceptibility Tests Organizer](#E_Antimicrobial_Susceptibility_Tests_Or) (identifier: oid:2.16.840.1.113883.10.20.5.6.177) (CONF:27159).

Figure 65: Isolate Susceptibility Tests Organizer Example

<organizer classCode="CLUSTER" moodCode="EVN">

<!-- Isolate Susceptibility Tests Organizer -->

<templateId root="2.16.840.1.113883.10.20.5.6.201" />

<id nullFlavor="NI" />

<code code="18725-2"

codeSystem="2.16.840.1.113883.6.1"

codeSystemName="LOINC"

displayName="Microbiology Studies" />

<statusCode code="completed" />

<participant typeCode="SBJ">

<!-- Antimicrobial Susceptibility Isolate Participant template -->

<templateId root="2.16.840.1.113883.10.20.5.6.202"/>

...

</participant>

<!-- This component is included only if the pathogen identified is

Staph. aureus -->

<component>

<organizer classCode="BATTERY" moodCode="EVN">

<!-- ARO Staph Aureus Specific Tests Organizer -->

<templateId root="2.16.840.1.113883.10.20.5.6.190"/>

...

</organizer>

</component>

<!-- Clarithromycin susceptibility testing -->

<component>

<organizer classCode="BATTERY" moodCode="EVN">

<!-- Antimicrobial Susceptibility Tests Organizer -->

<templateId root="2.16.840.1.113883.10.20.5.6.177"/>

...

</organizer>

</component>

...

</organizer>

IV Antibiotic Start Clinical Statement

[substanceAdministration: identifier oid:2.16.840.1.113883.10.20.5.6.140 (closed)]

Table 180: IV Antibiotic Start Clinical Statement Contexts

| Contained By: | Contains: |
| --- | --- |
| [Infection Indicator Organizer](#E_Infection_Indicator_Organizer) (required) |  |

This clinical statement records whether an IV antibiotic was started. It is used in an Evidence of Infection (Dialysis) Report.

When the IV antibiotic was started, set the value of @negationInd to false. When the IV antibiotic was not started, set the value of @negationInd to true.

Table 181: IV Antibiotic Start Clinical Statement Constraints Overview

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| XPath | Card. | Verb | Data Type | CONF# | Value |
| substanceAdministration (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.140) | | | | | |
| @classCode | 1..1 | SHALL |  | [21171](#C_21171) | 2.16.840.1.113883.5.6 (HL7ActClass) = SBADM |
| @moodCode | 1..1 | SHALL |  | [21172](#C_21172) | 2.16.840.1.113883.5.1001 (ActMood) = EVN |
| @negationInd | 1..1 | SHALL |  | [21173](#C_21173) |  |
| templateId | 1..1 | SHALL |  | [28253](#C_28253) |  |
| @root | 1..1 | SHALL |  | [28254](#C_28254) | 2.16.840.1.113883.10.20.22.4.16 |
| templateId | 1..1 | SHALL |  | [21426](#C_21426) |  |
| @root | 1..1 | SHALL |  | [21427](#C_21427) | 2.16.840.1.113883.10.20.5.6.140 |
| id | 1..1 | SHALL |  | [21428](#C_21428) |  |
| @nullFlavor | 1..1 | SHALL |  | [22766](#C_22766) | NA |
| code | 1..1 | SHALL |  | [21174](#C_21174) |  |
| @code | 1..1 | SHALL |  | [21175](#C_21175) | 281790008 |
| @codeSystem | 1..1 | SHALL |  | [28187](#C_28187) | 2.16.840.1.113883.6.96 (SNOMED CT) = 2.16.840.1.113883.6.96 |
| statusCode | 1..1 | SHALL |  | [21429](#C_21429) |  |
| @code | 1..1 | SHALL |  | [28109](#C_28109) | 2.16.840.1.113883.5.14 (ActStatus) = completed |
| effectiveTime | 1..1 | SHALL | IVL\_TS | [21496](#C_21496) |  |
| low | 1..1 | SHALL |  | [21497](#C_21497) |  |
| @nullFlavor | 1..1 | SHALL |  | [22767](#C_22767) | NA |
| high | 1..1 | SHALL |  | [21498](#C_21498) |  |
| @nullFlavor | 1..1 | SHALL |  | [22768](#C_22768) | NA |
| consumable | 1..1 | SHALL |  | [21176](#C_21176) |  |
| manufacturedProduct | 1..1 | SHALL |  | [21177](#C_21177) |  |
| @classCode | 1..1 | SHALL |  | [28348](#C_28348) | 2.16.840.1.113883.5.110 (RoleClass) = MANU |
| templateId | 1..1 | SHALL |  | [28338](#C_28338) |  |
| @root | 1..1 | SHALL |  | [28339](#C_28339) | 2.16.840.1.113883.10.20.22.4.23 |
| manufacturedMaterial | 1..1 | SHALL |  | [21178](#C_21178) |  |
| code | 1..1 | SHALL |  | [21179](#C_21179) |  |

1. Conforms to Medication Activity template (identifier: oid:2.16.840.1.113883.10.20.22.4.16).
2. SHALL contain exactly one [1..1] @classCode="SBADM" Substance Administration (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 STATIC) (CONF:21171).
3. SHALL contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 STATIC) (CONF:21172).
4. SHALL contain exactly one [1..1] @negationInd (CONF:21173).
5. SHALL contain exactly one [1..1] templateId (CONF:28253) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.4.16" (CONF:28254).
6. SHALL contain exactly one [1..1] templateId (CONF:21426) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.6.140" (CONF:21427).
7. SHALL contain exactly one [1..1] id (CONF:21428).
   1. This id SHALL contain exactly one [1..1] @nullFlavor="NA" (CONF:22766).
8. SHALL contain exactly one [1..1] code (CONF:21174).
   1. This code SHALL contain exactly one [1..1] @code="281790008" Intravenous antibiotic therapy (CONF:21175).
   2. This code SHALL contain exactly one [1..1] @codeSystem="2.16.840.1.113883.6.96" (CodeSystem: SNOMED CT 2.16.840.1.113883.6.96) (CONF:28187).
9. SHALL contain exactly one [1..1] statusCode (CONF:21429).
   1. This statusCode SHALL contain exactly one [1..1] @code="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14) (CONF:28109).
10. SHALL contain exactly one [1..1] effectiveTime (CONF:21496).
    1. This effectiveTime SHALL contain exactly one [1..1] low (CONF:21497).
       1. This low SHALL contain exactly one [1..1] @nullFlavor="NA" (CONF:22767).
    2. This effectiveTime SHALL contain exactly one [1..1] high (CONF:21498).
       1. This high SHALL contain exactly one [1..1] @nullFlavor="NA" (CONF:22768).
11. SHALL contain exactly one [1..1] consumable (CONF:21176).
    1. This consumable SHALL contain exactly one [1..1] manufacturedProduct (CONF:21177).
       1. This manufacturedProduct SHALL contain exactly one [1..1] @classCode="MANU" (CodeSystem: RoleClass 2.16.840.1.113883.5.110) (CONF:28348).
       2. This manufacturedProduct SHALL contain exactly one [1..1] templateId (CONF:28338) such that it
          1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.4.23" (CONF:28339).
       3. This manufacturedProduct SHALL contain exactly one [1..1] manufacturedMaterial (CONF:21178).
          1. This manufacturedMaterial SHALL contain exactly one [1..1] code (CONF:21179).
             1. In an Evidence of Infection (Dialysis) Report, if the antimicrobial started was Vancomycin, the value of @code SHALL be  '11124' Vancomycin [CodeSystem: 2.16.840.1.113883.6.88 RxNorm]. Otherwise, the value of @nullFlavor SHALL be 'NI' (CONF:21180).

Figure 66: IV Antibiotic Start Clinical Statement Example

<substanceAdministration classCode="SBADM" moodCode="EVN" negationInd="false">

<!-- C-CDA Medication Activity templateId -->

<templateId root="2.16.840.1.113883.10.20.22.4.16"/>

<!-- HAI Antibiotic Start Clinical Statement templateId -->

<templateId root="2.16.840.1.113883.10.20.5.6.140"/>

<id nullFlavor="NA"/>

<code codeSystem="2.16.840.1.113883.6.96"

codeSystemName="SNOMED CT"

code="281790008"

displayName="Intravenous antibiotic therapy"/>

<statusCode code="completed"/>

<effectiveTime xsi:type="IVL\_TS">

<low nullFlavor="NA"/>

<high nullFlavor="NA"/>

</effectiveTime>

<!-- The antibiotic started was IV Vancomycin -->

<consumable>

<manufacturedProduct classCode="MANU">

<templateId root="2.16.840.1.113883.10.20.22.4.23" />

<manufacturedMaterial>

<code codeSystem="2.16.840.1.113883.6.88"

codeSystemName="RxNorm" code="11124"

displayName="Vancomycin"/>

</manufacturedMaterial>

</manufacturedProduct>

</consumable>

</substanceAdministration>

IV Antifungal Start Clinical Statement

[substanceAdministration: identifier oid:2.16.840.1.113883.10.20.5.6.141 (closed)]

Table 182: IV Antifungal Start Clinical Statement Contexts

| Contained By: | Contains: |
| --- | --- |
| [Infection Indicator Organizer](#E_Infection_Indicator_Organizer) (required) |  |

This clinical statement records whether an IV antifungal was started. It is used in an Evidence of Infection (Dialysis) Report.

When the infection indicator was present, set the value of @negationInd to false. When the infection indicator was not present, set the value of @negationInd to true.

Table 183: IV Antifungal Start Clinical Statement Constraints Overview

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| XPath | Card. | Verb | Data Type | CONF# | Value |
| substanceAdministration (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.141) | | | | | |
| @classCode | 1..1 | SHALL |  | [21166](#C_21166) | 2.16.840.1.113883.5.6 (HL7ActClass) = SBADM |
| @moodCode | 1..1 | SHALL |  | [21167](#C_21167) | 2.16.840.1.113883.5.1001 (ActMood) = EVN |
| @negationInd | 1..1 | SHALL |  | [21168](#C_21168) |  |
| templateId | 1..1 | SHALL |  | [28255](#C_28255) |  |
| @root | 1..1 | SHALL |  | [28256](#C_28256) | 2.16.840.1.113883.10.20.22.4.16 |
| templateId | 1..1 | SHALL |  | [21501](#C_21501) |  |
| @root | 1..1 | SHALL |  | [21502](#C_21502) | 2.16.840.1.113883.10.20.5.6.141 |
| id | 1..1 | SHALL |  | [21503](#C_21503) |  |
| @nullFlavor | 1..1 | SHALL |  | [22763](#C_22763) | NA |
| code | 1..1 | SHALL |  | [21169](#C_21169) |  |
| @code | 1..1 | SHALL |  | [21170](#C_21170) | 2306-9 |
| @codeSystem | 0..1 | MAY |  | [28188](#C_28188) | 2.16.840.1.113883.6.277 (cdcNHSN) = 2.16.840.1.113883.6.277 |
| statusCode | 1..1 | SHALL |  | [21504](#C_21504) |  |
| @code | 1..1 | SHALL |  | [28110](#C_28110) | 2.16.840.1.113883.5.14 (ActStatus) = completed |
| effectiveTime | 1..1 | SHALL | IVL\_TS | [21505](#C_21505) |  |
| low | 1..1 | SHALL |  | [21506](#C_21506) |  |
| @nullFlavor | 0..1 | SHOULD |  | [22764](#C_22764) | NA |
| high | 1..1 | SHALL |  | [21507](#C_21507) |  |
| @nullFlavor | 0..1 | SHOULD |  | [22765](#C_22765) | NA |
| consumable | 1..1 | SHALL |  | [28340](#C_28340) |  |
| manufacturedProduct | 1..1 | SHALL |  | [28341](#C_28341) |  |
| @classCode | 1..1 | SHALL |  | [28347](#C_28347) | 2.16.840.1.113883.5.110 (RoleClass) = MANU |
| templateId | 1..1 | SHALL |  | [28342](#C_28342) |  |
| @root | 1..1 | SHALL |  | [28345](#C_28345) | 2.16.840.1.113883.10.20.22.4.23 |
| manufacturedMaterial | 1..1 | SHALL |  | [28343](#C_28343) |  |
| code | 1..1 | SHALL |  | [28344](#C_28344) |  |
| @nullFlavor | 1..1 | SHALL |  | [28346](#C_28346) | 2.16.840.1.113883.5.1008 (HL7NullFlavor) = NI |

1. Conforms to Medication Activity template (identifier: oid:2.16.840.1.113883.10.20.22.4.16).
2. SHALL contain exactly one [1..1] @classCode="SBADM" Substance Administration (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 STATIC) (CONF:21166).
3. SHALL contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 STATIC) (CONF:21167).
4. SHALL contain exactly one [1..1] @negationInd (CONF:21168).
5. SHALL contain exactly one [1..1] templateId (CONF:28255) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.4.16" (CONF:28256).
6. SHALL contain exactly one [1..1] templateId (CONF:21501) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.6.141" (CONF:21502).
7. SHALL contain exactly one [1..1] id (CONF:21503).
   1. This id SHALL contain exactly one [1..1] @nullFlavor="NA" (CONF:22763).
8. SHALL contain exactly one [1..1] code (CONF:21169).
   1. This code SHALL contain exactly one [1..1] @code="2306-9" Intravenous injection of antifungal substance (CONF:21170).
   2. This code MAY contain zero or one [0..1] @codeSystem="2.16.840.1.113883.6.277" (CodeSystem: cdcNHSN 2.16.840.1.113883.6.277) (CONF:28188).
9. SHALL contain exactly one [1..1] statusCode (CONF:21504).
   1. This statusCode SHALL contain exactly one [1..1] @code="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14) (CONF:28110).
10. SHALL contain exactly one [1..1] effectiveTime (CONF:21505).
    1. This effectiveTime SHALL contain exactly one [1..1] low (CONF:21506).
       1. This low SHOULD contain zero or one [0..1] @nullFlavor="NA" (CONF:22764).
    2. This effectiveTime SHALL contain exactly one [1..1] high (CONF:21507).
       1. This high SHOULD contain zero or one [0..1] @nullFlavor="NA" (CONF:22765).

C-CDA (and CDA) require the consumable element, however NHSN does not collect further information about the antifungal.

1. SHALL contain exactly one [1..1] consumable (CONF:28340).
   1. This consumable SHALL contain exactly one [1..1] manufacturedProduct (CONF:28341).
      1. This manufacturedProduct SHALL contain exactly one [1..1] @classCode="MANU" (CodeSystem: RoleClass 2.16.840.1.113883.5.110) (CONF:28347).
      2. This manufacturedProduct SHALL contain exactly one [1..1] templateId (CONF:28342) such that it
         1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.4.23" (CONF:28345).
      3. This manufacturedProduct SHALL contain exactly one [1..1] manufacturedMaterial (CONF:28343).
         1. This manufacturedMaterial SHALL contain exactly one [1..1] code (CONF:28344).
      4. This code SHALL contain exactly one [1..1] @nullFlavor="NI" (CodeSystem: HL7NullFlavor 2.16.840.1.113883.5.1008) (CONF:28346).

Figure 67: IV Antifungal Start Clinical Statement Example

<!—- C-CDA Medication Activity templateId -->

<templateId root="2.16.840.1.113883.10.20.22.4.16"/>

<!-- HAI IV antifungal start clinical statement templateId -->

<templateId root="2.16.840.1.113883.10.20.5.6.141"/>

<id nullFlavor="NA"/>

<code codeSystem="2.16.840.1.113883.6.277"

codeSystemName="cdcNHSN"

code="2306-9"

displayName="Intravenous injection of antifungal substance"/>

<statusCode code="completed"/>

<effectiveTime xsi:type="IVL\_TS">

<low nullFlavor="NA" />

<high nullFlavor="NA" />

</effectiveTime>

<!-- CDA requires the consumable element, however NHSN does not

collect further information the antifungal -->

<consumable>

<manufacturedProduct classCode="MANU">

<templateId root="2.16.840.1.113883.10.20.22.4.23" />

<manufacturedMaterial>

<code nullFlavor="NI"/>

</manufacturedMaterial>

</manufacturedProduct>

</consumable>

</substanceAdministration>

Loss of Vascular Access Observation

[observation: identifier oid:2.16.840.1.113883.10.20.5.6.203 (closed)]

Table 184: Loss of Vascular Access Observation Contexts

| Contained By: | Contains: |
| --- | --- |
| [Details Section in an Evidence of Infection (Dialysis) Report (V2)](#S_Details_Section_in_an_Evidence_of_V2) (required) |  |

This template records whether or not a patient on dialysis lost vascular access as a result of their infection (dialysis event). It is based on the C-CDA Problem Observation template.

When the patient had loss of vascular access, set the value of @negationInd to false. When the patient did not have loss of vascular access, set the value of @negationInd to true. When it is not known if the patient had loss of vascular access, set the value of @nullFlavor to UNK.

Table 185: Loss of Vascular Access Observation Constraints Overview

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| XPath | Card. | Verb | Data Type | CONF# | Value |
| observation (identifier: oid:2.16.840.1.113883.10.20.5.6.203) | | | | | |
| @nullFlavor | 0..1 | MAY |  | [30214](#C_30214) | UNK |
| @classCode | 1..1 | SHALL |  | [30205](#C_30205) | 2.16.840.1.113883.5.6 (HL7ActClass) = OBS |
| @moodCode | 1..1 | SHALL |  | [30206](#C_30206) | EVN |
| @negationInd | 0..1 | SHOULD |  | [30216](#C_30216) |  |
| templateId | 1..1 | SHALL |  | [30301](#C_30301) |  |
| @root | 1..1 | SHALL |  | [30302](#C_30302) | 2.16.840.1.113883.10.20.22.4.4 |
| templateId | 1..1 | SHALL |  | [30207](#C_30207) |  |
| @root | 1..1 | SHALL |  | [30208](#C_30208) | 2.16.840.1.113883.10.20.5.6.203 |
| id | 1..1 | SHALL |  | [30209](#C_30209) |  |
| @nullFlavor | 1..1 | SHALL |  | [30224](#C_30224) | NA |
| code | 1..1 | SHALL |  | [30210](#C_30210) |  |
| @code | 1..1 | SHALL |  | [30218](#C_30218) | ASSERTION |
| @codeSystem | 1..1 | SHALL |  | [30219](#C_30219) | 2.16.840.1.113883.5.4 (ActCode) = 2.16.840.1.113883.5.4 |
| statusCode | 1..1 | SHALL |  | [30211](#C_30211) |  |
| @code | 1..1 | SHALL |  | [30212](#C_30212) | 2.16.840.1.113883.5.14 (ActStatus) = completed |
| value | 1..1 | SHALL | CD | [30213](#C_30213) |  |
| @code | 1..1 | SHALL |  | [30220](#C_30220) | 2.16.840.1.113883.6.277 (cdcNHSN) = 2325-9 |
| @codeSystem | 1..1 | SHALL |  | [30221](#C_30221) | 2.16.840.1.113883.6.277 (cdcNHSN) = 2.16.840.1.113883.6.277 |

1. Conforms to Problem Observation template (identifier: oid:2.16.840.1.113883.10.20.22.4.4).
2. MAY contain zero or one [0..1] @nullFlavor="UNK" (CONF:30214).
   1. If it is not known whether the patient had loss of vascular access, the value of @nullFlavor SHALL be UNK.  If the value of @nullFlavor is set to UNK then the value of @negationInd SHALL NOT be set (CONF:30215).
3. SHALL contain exactly one [1..1] @classCode="OBS" (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6) (CONF:30205).
4. SHALL contain exactly one [1..1] @moodCode="EVN" (CONF:30206).
5. SHOULD contain zero or one [0..1] @negationInd (CONF:30216).
   1. If the patient had loss of vascular access, the value of @negationInd SHALL be false. If the patient did not have loss of vascular access, the value of @negationInd SHALL be true.   If the value of @negationInd is set then the value of @nullFlavor SHALL NOT be set (CONF:30217).
6. SHALL contain exactly one [1..1] templateId (CONF:30301) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.4.4" (CONF:30302).
7. SHALL contain exactly one [1..1] templateId (CONF:30207) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.6.203" (CONF:30208).
8. SHALL contain exactly one [1..1] id (CONF:30209).
   1. This id SHALL contain exactly one [1..1] @nullFlavor="NA" (CONF:30224).
9. SHALL contain exactly one [1..1] code (CONF:30210).
   1. This code SHALL contain exactly one [1..1] @code="ASSERTION" (CONF:30218).
   2. This code SHALL contain exactly one [1..1] @codeSystem="2.16.840.1.113883.5.4" (CodeSystem: ActCode 2.16.840.1.113883.5.4) (CONF:30219).
10. SHALL contain exactly one [1..1] statusCode (CONF:30211).
    1. This statusCode SHALL contain exactly one [1..1] @code="completed" (CodeSystem: ActStatus 2.16.840.1.113883.5.14) (CONF:30212).
11. SHALL contain exactly one [1..1] value with @xsi:type="CD" (CONF:30213).
    1. This value SHALL contain exactly one [1..1] @code="2325-9" Loss of vascular access (CodeSystem: cdcNHSN 2.16.840.1.113883.6.277) (CONF:30220).
    2. This value SHALL contain exactly one [1..1] @codeSystem="2.16.840.1.113883.6.277" (CodeSystem: cdcNHSN 2.16.840.1.113883.6.277) (CONF:30221).

Figure 68: Loss of Vascular Access Observation Example

<observation classCode="OBS" moodCode="EVN" negationInd="false">

<!--

If the patient had loss of vascular access,

the value of @negationInd SHALL be false.

If the patient did not have loss of vascular access,

the value of @negationInd SHALL be true.

If the value of @negationInd is set then the value of

@nullFlavor SHALL NOT be set.

If it is not known whether the patient had loss of vascular access,

the value of @nullFlavor SHALL be UNK as follows:

<observation classCode="OBS" moodCode="EVN" nullFlavor="NA">

If the value of @nullFlavor is set to UNK then the value of

@negationInd SHALL NOT be set.

-->

<!-- C-CDA Problem Observation Type -->

<templateId root="2.16.840.1.113883.10.20.22.4.4" />

<!-- Loss of Vascular Access Observation -->

<templateId root="2.16.840.1.113883.10.20.5.6.203" />

<id nullFlavor="NA" />

<code codeSystem="2.16.840.1.113883.5.4" code="ASSERTION" />

<statusCode code="completed" />

<value xsi:type="CD"

code="2325-9"

displayName="Loss of vascular access"

codeSystem="2.16.840.1.113883.6.277"

codeSystemName="cdcNHSN" />

</observation>

MDRO/CDI Observation

[observation: identifier oid:2.16.840.1.113883.10.20.5.6.142 (closed)]

Table 186: MDRO/CDI Observation Contexts

| Contained By: | Contains: |
| --- | --- |
| [Findings Section in an Infection-Type Report](#S_Findings_Section_in_an_InfectionType_) (optional) |  |

This observation records whether the primary infection being reported was caused by a multi-drug-resistant organism (MDRO). It is a general or summary observation not associated with any individual pathogen in the Findings Section.

If the infection organism was multi-drug resistant, set the value of @negationInd to false. If the infection organism was not multi-drug resistant, set the value of @negationInd to true.

Table 187: MDRO/CDI Observation Constraints Overview

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| XPath | Card. | Verb | Data Type | CONF# | Value |
| observation (identifier: oid:2.16.840.1.113883.10.20.5.6.142) | | | | | |
| @classCode | 1..1 | SHALL |  | [21157](#C_21157) | 2.16.840.1.113883.5.6 (HL7ActClass) = OBS |
| @moodCode | 1..1 | SHALL |  | [21158](#C_21158) | 2.16.840.1.113883.5.1001 (ActMood) = EVN |
| @negationInd | 1..1 | SHALL |  | [21159](#C_21159) |  |
| templateId | 1..1 | SHALL |  | [28257](#C_28257) |  |
| @root | 1..1 | SHALL |  | [28258](#C_28258) | 2.16.840.1.113883.10.20.22.4.4 |
| templateId | 1..1 | SHALL |  | [21234](#C_21234) |  |
| @root | 1..1 | SHALL |  | [21235](#C_21235) | 2.16.840.1.113883.10.20.5.6.142 |
| id | 1..1 | SHALL |  | [21236](#C_21236) |  |
| @nullFlavor | 1..1 | SHALL |  | [22769](#C_22769) | NA |
| code | 1..1 | SHALL |  | [21160](#C_21160) |  |
| @code | 1..1 | SHALL |  | [21161](#C_21161) | 2.16.840.1.113883.5.4 (ActCode) = ASSERTION |
| statusCode | 1..1 | SHALL |  | [21162](#C_21162) |  |
| @code | 1..1 | SHALL |  | [21163](#C_21163) | 2.16.840.1.113883.5.14 (ActStatus) = completed |
| value | 1..1 | SHALL | CD | [21164](#C_21164) |  |
| @code | 1..1 | SHALL |  | [21165](#C_21165) | 2.16.840.1.113883.6.277 (cdcNHSN) = 2318-4 |

1. Conforms to Problem Observation template (identifier: oid:2.16.840.1.113883.10.20.22.4.4).
2. SHALL contain exactly one [1..1] @classCode="OBS" Observation (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 STATIC) (CONF:21157).
3. SHALL contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 STATIC) (CONF:21158).
4. SHALL contain exactly one [1..1] @negationInd (CONF:21159).
5. SHALL contain exactly one [1..1] templateId (CONF:28257) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.4.4" (CONF:28258).
6. SHALL contain exactly one [1..1] templateId (CONF:21234) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.6.142" (CONF:21235).
7. SHALL contain exactly one [1..1] id (CONF:21236).
   1. This id SHALL contain exactly one [1..1] @nullFlavor="NA" (CONF:22769).
8. SHALL contain exactly one [1..1] code (CONF:21160).
   1. This code SHALL contain exactly one [1..1] @code="ASSERTION" Assertion (CodeSystem: ActCode 2.16.840.1.113883.5.4 STATIC) (CONF:21161).
9. SHALL contain exactly one [1..1] statusCode (CONF:21162).
   1. This statusCode SHALL contain exactly one [1..1] @code="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14 STATIC) (CONF:21163).
10. SHALL contain exactly one [1..1] value with @xsi:type="CD" (CONF:21164).
    1. This value SHALL contain exactly one [1..1] @code="2318-4" MDRO Infection or C.difficile infection (CodeSystem: cdcNHSN 2.16.840.1.113883.6.277 STATIC) (CONF:21165).

Figure 69: MDRO Observation Example

< !-- The observation is negated, i.e. the infection was not MDRO or CDI -->

<observation classCode="OBS" moodCode="EVN" negationInd="false">

<!-- C-CDA Problem Observation -->

<templateId root="2.16.840.1.113883.10.20.22.4.4"/>

<!-- HAI MDRO/CDI Observation templateId -->

<templateId root="2.16.840.1.113883.10.20.5.6.142"/>

<id nullFlavor="NA"/>

<code code="ASSERTION" codeSystem="2.16.840.1.113883.5.4"/>

<statusCode code="completed"/>

<value xsi:type="CD"

codeSystem="2.16.840.1.113883.6.277"

codeSystemName="cdcNHSN"

code="2318-4"

displayName="MDRO Infection or C.difficile infection"/>

</observation>

Occasion of HAI Detection Observation

[observation: identifier oid:2.16.840.1.113883.10.20.5.6.144 (closed)]

Table 188: Occasion of HAI Detection Observation Contexts

| Contained By: | Contains: |
| --- | --- |
| [Infection-Type Observation](#E_InfectionType_Observation) (optional) |  |

This observation records when, in relation to an admission (a surgery stay), an HAI was detected.

Table 189: Occasion of HAI Detection Observation Constraints Overview

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| XPath | Card. | Verb | Data Type | CONF# | Value |
| observation (identifier: oid:2.16.840.1.113883.10.20.5.6.144) | | | | | |
| @classCode | 1..1 | SHALL |  | [21716](#C_21716) | 2.16.840.1.113883.5.6 (HL7ActClass) = OBS |
| @moodCode | 1..1 | SHALL |  | [21717](#C_21717) | 2.16.840.1.113883.5.1001 (ActMood) = EVN |
| @negationInd | 1..1 | SHALL |  | [21718](#C_21718) | false |
| templateId | 1..1 | SHALL |  | [28259](#C_28259) |  |
| @root | 1..1 | SHALL |  | [28260](#C_28260) | 2.16.840.1.113883.10.20.22.4.4 |
| templateId | 1..1 | SHALL |  | [21721](#C_21721) |  |
| @root | 1..1 | SHALL |  | [21722](#C_21722) | 2.16.840.1.113883.10.20.5.6.144 |
| id | 1..1 | SHALL |  | [21723](#C_21723) |  |
| @nullFlavor | 1..1 | SHALL |  | [22773](#C_22773) | NA |
| code | 1..1 | SHALL |  | [21724](#C_21724) |  |
| @code | 1..1 | SHALL |  | [21725](#C_21725) | 2.16.840.1.113883.5.4 (ActCode) = ASSERTION |
| statusCode | 1..1 | SHALL |  | [21726](#C_21726) |  |
| @code | 1..1 | SHALL |  | [21727](#C_21727) | 2.16.840.1.113883.5.14 (ActStatus) = completed |
| value | 1..1 | SHALL | CD | [21728](#C_21728) | 2.16.840.1.113883.13.12 (NHSNOccasionOfDetectionCode) |

1. Conforms to Problem Observation template (identifier: oid:2.16.840.1.113883.10.20.22.4.4).
2. SHALL contain exactly one [1..1] @classCode="OBS" Observation (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 STATIC) (CONF:21716).
3. SHALL contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 STATIC) (CONF:21717).
4. SHALL contain exactly one [1..1] @negationInd="false" (CONF:21718).
5. SHALL contain exactly one [1..1] templateId (CONF:28259) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.4.4" (CONF:28260).
6. SHALL contain exactly one [1..1] templateId (CONF:21721) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.6.144" (CONF:21722).
7. SHALL contain exactly one [1..1] id (CONF:21723).
   1. This id SHALL contain exactly one [1..1] @nullFlavor="NA" (CONF:22773).
8. SHALL contain exactly one [1..1] code (CONF:21724).
   1. This code SHALL contain exactly one [1..1] @code="ASSERTION" Assertion (CodeSystem: ActCode 2.16.840.1.113883.5.4 STATIC) (CONF:21725).
9. SHALL contain exactly one [1..1] statusCode (CONF:21726).
   1. This statusCode SHALL contain exactly one [1..1] @code="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14 STATIC) (CONF:21727).
10. SHALL contain exactly one [1..1] value with @xsi:type="CD", where the code SHALL be selected from ValueSet [NHSNOccasionOfDetectionCode](#NHSNOccasionOfDetectionCode) 2.16.840.1.113883.13.12 DYNAMIC (CONF:21728).

Table 190: NHSNOccasionOfDetectionCode

|  |  |  |  |
| --- | --- | --- | --- |
| Value Set: NHSNOccasionOfDetectionCode 2.16.840.1.113883.13.12  Code System: cdcNHSN 2.16.840.1.113883.6.277 | | | |
| Code | Code System | Code System OID | Print Name |
| 1505-7 | cdcNHSN | 2.16.840.1.113883.6.277 | Post Discharge Surveillance |
| 1510-7 | cdcNHSN | 2.16.840.1.113883.6.277 | Admission (during the stay in which the surgery was performed) |
| 1516-4 | cdcNHSN | 2.16.840.1.113883.6.277 | Readmission to facility where associated procedure performed |
| 1517-2 | cdcNHSN | 2.16.840.1.113883.6.277 | Readmission to facility other than where the associated procedure was performed |

Figure 70: Occasion of HAI Detection Observation Example

<observation classCode="OBS" moodCode="EVN" negationInd="false">

<!-- C-CDA Problem Observation templateId -->

<templateId root="2.16.840.1.113883.10.20.22.4.4"/>

<!-- HAI Occasion of HAI Detection Observation templateId -->

<templateId root="2.16.840.1.113883.10.20.5.6.144"/>

<id nullFlavor="NA"/>

<code code="ASSERTION"

codeSystem="2.16.840.1.113883.5.4"/>

<statusCode code="completed"/>

<value xsi:type="CD"

codeSystem="2.16.840.1.113883.6.277"

codeSystemName="cdcNHSN"

code="1510-7"

displayName="Admission (during the stay in which the surgery was performed)"/>

</observation>

Pathogen Identified Observation (LIO)

[observation: identifier oid:2.16.840.1.113883.10.20.5.6.146 (closed)]

Table 191: Pathogen Identified Observation (LIO) Contexts

| Contained By: | Contains: |
| --- | --- |
| [Findings Section in a LIO Report](#S_Findings_Section_in_a_LIO_Report) (required) | [Specimen Collection Procedure (LIO)](#E_Specimen_Collection_Procedure_LIO) |

The Pathogen Identified Observation in a LIO Report records a laboratory-identified microorganism and details of the specimen collection.

The microorganism is recorded in the same way as in the Findings Organizer in Infection Reports.

Table 192: Pathogen Identified Observation (LIO) Constraints Overview

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| XPath | Card. | Verb | Data Type | CONF# | Value |
| observation (identifier: oid:2.16.840.1.113883.10.20.5.6.146) | | | | | |
| @classCode | 1..1 | SHALL |  | [19867](#C_19867) | 2.16.840.1.113883.5.6 (HL7ActClass) = OBS |
| @moodCode | 1..1 | SHALL |  | [19868](#C_19868) | 2.16.840.1.113883.5.1001 (ActMood) = EVN |
| templateId | 1..1 | SHALL |  | [19879](#C_19879) |  |
| @root | 1..1 | SHALL |  | [19880](#C_19880) | 2.16.840.1.113883.10.20.5.6.146 |
| id | 1..1 | SHALL |  | [19881](#C_19881) |  |
| @nullFlavor | 1..1 | SHALL |  | [22774](#C_22774) | NA |
| code | 1..1 | SHALL |  | [19869](#C_19869) |  |
| @code | 1..1 | SHALL |  | [19870](#C_19870) | 2.16.840.1.113883.6.1 (LOINC) = 41852-5 |
| statusCode | 1..1 | SHALL |  | [19871](#C_19871) |  |
| @code | 1..1 | SHALL |  | [19872](#C_19872) | 2.16.840.1.113883.5.14 (ActStatus) = completed |
| effectiveTime | 1..1 | SHALL |  | [22732](#C_22732) |  |
| value | 1..1 | SHALL | CD | [19873](#C_19873) | 2.16.840.1.114222.4.11.3194 (NHSNSignificantPathogenCode) |
| entryRelationship | 1..1 | SHALL |  | [19875](#C_19875) |  |
| procedure | 1..1 | SHALL |  | [19876](#C_19876) | [Specimen Collection Procedure (LIO) (identifier: oid:2.16.840.1.113883.10.20.5.6.165](#E_Specimen_Collection_Procedure_LIO) |

1. Conforms to Result Observation template (identifier: oid:2.16.840.1.113883.10.20.22.4.2).
2. SHALL contain exactly one [1..1] @classCode="OBS" Observation (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 STATIC) (CONF:19867).
3. SHALL contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 STATIC) (CONF:19868).
4. SHALL contain exactly one [1..1] templateId (CONF:19879) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.6.146" (CONF:19880).
5. SHALL contain exactly one [1..1] id (CONF:19881).
   1. This id SHALL contain exactly one [1..1] @nullFlavor="NA" (CONF:22774).
6. SHALL contain exactly one [1..1] code (CONF:19869).
   1. This code SHALL contain exactly one [1..1] @code="41852-5" Microorganism identified (CodeSystem: LOINC 2.16.840.1.113883.6.1 STATIC) (CONF:19870).
7. SHALL contain exactly one [1..1] statusCode (CONF:19871).
   1. This statusCode SHALL contain exactly one [1..1] @code="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14 STATIC) (CONF:19872).
8. SHALL contain exactly one [1..1] effectiveTime (CONF:22732).
9. SHALL contain exactly one [1..1] value with @xsi:type="CD", where the code SHALL be selected from ValueSet [NHSNSignificantPathogenCode](#NHSNSignificantPathogenCode) 2.16.840.1.114222.4.11.3194 DYNAMIC (CONF:19873).
10. SHALL contain exactly one [1..1] entryRelationship (CONF:19875).
    1. This entryRelationship SHALL contain exactly one [1..1] [Specimen Collection Procedure (LIO)](#E_Specimen_Collection_Procedure_LIO) (identifier: oid:2.16.840.1.113883.10.20.5.6.165) (CONF:19876).

Table 193: NHSNSignificantPathogenCode

|  |  |  |  |
| --- | --- | --- | --- |
| Value Set: NHSNSignificantPathogenCode 2.16.840.1.114222.4.11.3194  Code System: SNOMED CT 2.16.840.1.113883.6.96 or cdcNHSN 2.16.840.1.113883.6.277    NHSN's value set for the observation recording the significant pathogen identified. | | | |
| Code | Code System | Code System OID | Print Name |
| 5933001 | SNOMED CT | 2.16.840.1.113883.6.96 | Clostridium difficile (organism) |
| 115329001 | SNOMED CT | 2.16.840.1.113883.6.96 | Methicillin resistant Staphylococcus aureus (organism) |
| 417943000 | SNOMED CT | 2.16.840.1.113883.6.96 | Methicillin susceptible Staphylococcus aureus (organism) |
| 2010-7 | cdcNHSN | 2.16.840.1.113883.6.277 | Multidrug Resistant - Acinetobacter baumannii (Organism) |
| 113727004 | SNOMED CT | 2.16.840.1.113883.6.96 | Vancomycin resistant enterococcus (organism) |
| 2016-4 | cdcNHSN | 2.16.840.1.113883.6.277 | CephR-Klebsiella (CEPHRKLEB) |
| 2017-2 | cdcNHSN | 2.16.840.1.113883.6.277 | CRE-Klebsiella (CREKLEB) |
| 2018-0 | cdcNHSN | 2.16.840.1.113883.6.277 | CRE-Ecoli (CREECOLI) |
| ... | | | |

Figure 71: Pathogen Identified Observation (LIO) Example

<observation classCode="OBS" moodCode="EVN">

<!-- C-CDA Result Observation templateID -->

<templateId root="2.16.840.1.113883.10.20.22.4.2"/>

<!-- HAI Pathogen Identified Observation (LIO)templateId -->

<templateId root="2.16.840.1.113883.10.20.5.6.146"/>

<id nullFlavor="NA"/>

<code codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC"

code="41852-5" displayName="Microorganism Identified"/>

<statusCode code="completed"/>

<effectiveTime nullFlavor="NA"/>

<value xsi:type="CD" codeSystem="2.16.840.1.113883.6.96"

codeSystemName="SNOMED CT"

code="5933001"

displayName="Clostridium difficile (organism)"/>

<!-- Specimen collection procedure contains specimen collection encounter -->

<entryRelationship typeCode="COMP">

<procedure classCode="PROC" moodCode="EVN">

<!-- Specimen Collection Procedure (LIO) -->

...

<entryRelationship typeCode="COMP" inversionInd="true">

<!-- Specimen Collection Encounter (LIO) -->

...

</encounter>

</entryRelationship>

</procedure>

</entryRelationship>

<observation/>

Pathogen Identified Observation

[observation: identifier oid:2.16.840.1.113883.10.20.5.6.145 (closed)]

Table 194: Pathogen Identified Observation Contexts

| Contained By: | Contains: |
| --- | --- |
| [Findings Organizer](#E_Findings_Organizer) (required)  [Findings Section in an Infection-Type Report](#S_Findings_Section_in_an_InfectionType_) (optional) |  |

A Pathogen Identified Observation either represents a pathogen identified or, using a code from the NHSN Pathogens Code value set, records that no pathogens were identified.

The value set table provides codes for several unspecified species—for example "Acidaminococcus species" (SNOMED CT 131202007, NHSN ACISP)—for use when a more precise code is not available. The code for an unspecified species is preferred to a genus-level code.

Table 195: Pathogen Identified Observation Constraints Overview

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| XPath | Card. | Verb | Data Type | CONF# | Value |
| observation (identifier: oid:2.16.840.1.113883.10.20.5.6.145) | | | | | |
| @classCode | 1..1 | SHALL |  | [20909](#C_20909) | 2.16.840.1.113883.5.6 (HL7ActClass) = OBS |
| @moodCode | 1..1 | SHALL |  | [20910](#C_20910) | 2.16.840.1.113883.5.1001 (ActMood) = EVN |
| templateId | 1..1 | SHALL |  | [28261](#C_28261) |  |
| @root | 1..1 | SHALL |  | [28262](#C_28262) | 2.16.840.1.113883.10.20.22.4.2 |
| templateId | 1..1 | SHALL |  | [20913](#C_20913) |  |
| @root | 1..1 | SHALL |  | [20914](#C_20914) | 2.16.840.1.113883.10.20.5.6.145 |
| id | 1..1 | SHALL |  | [20915](#C_20915) |  |
| @nullFlavor | 1..1 | SHALL |  | [22777](#C_22777) | NA |
| code | 1..1 | SHALL |  | [20916](#C_20916) |  |
| @code | 1..1 | SHALL |  | [20917](#C_20917) | 2.16.840.1.113883.6.1 (LOINC) = 41852-5 |
| statusCode | 1..1 | SHALL |  | [20918](#C_20918) |  |
| @code | 1..1 | SHALL |  | [20919](#C_20919) | 2.16.840.1.113883.5.14 (ActStatus) = completed |
| effectiveTime | 1..1 | SHALL |  | [22716](#C_22716) |  |
| @nullFlavor | 1..1 | SHALL |  | [22778](#C_22778) | NA |
| value | 1..1 | SHALL | CD | [20920](#C_20920) | 2.16.840.1.113883.13.16 (NHSNPathogenCode) |

1. Conforms to Result Observation template (identifier: oid:2.16.840.1.113883.10.20.22.4.2).
2. SHALL contain exactly one [1..1] @classCode="OBS" Observation (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 STATIC) (CONF:20909).
3. SHALL contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 STATIC) (CONF:20910).
4. SHALL contain exactly one [1..1] templateId (CONF:28261) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.4.2" (CONF:28262).
5. SHALL contain exactly one [1..1] templateId (CONF:20913) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.6.145" (CONF:20914).
6. SHALL contain exactly one [1..1] id (CONF:20915).
   1. This id SHALL contain exactly one [1..1] @nullFlavor="NA" (CONF:22777).
7. SHALL contain exactly one [1..1] code (CONF:20916).
   1. This code SHALL contain exactly one [1..1] @code="41852-5" Microorganism identified (CodeSystem: LOINC 2.16.840.1.113883.6.1 STATIC) (CONF:20917).
8. SHALL contain exactly one [1..1] statusCode (CONF:20918).
   1. This statusCode SHALL contain exactly one [1..1] @code="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14 STATIC) (CONF:20919).
9. SHALL contain exactly one [1..1] effectiveTime (CONF:22716).
   1. This effectiveTime SHALL contain exactly one [1..1] @nullFlavor="NA" (CONF:22778).
10. SHALL contain exactly one [1..1] value with @xsi:type="CD", where the code SHALL be selected from ValueSet [NHSNPathogenCode](#NHSNPathogenCode) 2.16.840.1.113883.13.16 DYNAMIC (CONF:20920).

Figure 72: Pathogen Identified Observation Example

<observation classCode="OBS" moodCode="EVN">

<!-- C-CDA Result Observation templateId -->

<templateId root="2.16.840.1.113883.10.20.22.4.2"/>

<!-- HAI Pathogen Identified Observation templateId -->

<templateId root="2.16.840.1.113883.10.20.5.6.145"/>

<id nullFlavor="NA"/>

<code codeSystem="2.16.840.1.113883.6.1"

codeSystemName="LOINC"

code="41852-5"

displayName="Microorganism identified"/>

<statusCode code="completed"/>

<effectiveTime nullFlavor="NA"/>

<value xsi:type="CD"

codeSystem="2.16.840.1.113883.6.96"

codeSystemName="SNOMED"

code="116197008"

displayName="Staphylococcus, coagulase negative (organism)"/>

</observation>

Pathogen Ranking Observation

[observation: identifier oid:2.16.840.1.113883.10.20.5.6.147 (closed)]

Table 196: Pathogen Ranking Observation Contexts

| Contained By: | Contains: |
| --- | --- |
| [Findings Organizer](#E_Findings_Organizer) (required) |  |

The NHSN pathogen findings record up to three pathogens. This observation records the relative importance of a pathogen in that set with respect to its role in the infection.

The value is a coded ordinal, where the value of @code is the number 1 or 2 or 3;  where 1 represents the highest-ranked pathogen of up to three pathogens recorded.

Table 197: Pathogen Ranking Observation Constraints Overview

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| XPath | Card. | Verb | Data Type | CONF# | Value |
| observation (identifier: oid:2.16.840.1.113883.10.20.5.6.147) | | | | | |
| @classCode | 1..1 | SHALL |  | [19787](#C_19787) | 2.16.840.1.113883.5.6 (HL7ActClass) = OBS |
| @moodCode | 1..1 | SHALL |  | [19788](#C_19788) | 2.16.840.1.113883.5.1001 (ActMood) = EVN |
| templateId | 1..1 | SHALL |  | [28263](#C_28263) |  |
| @root | 1..1 | SHALL |  | [28264](#C_28264) | 2.16.840.1.113883.10.20.22.4.4 |
| templateId | 1..1 | SHALL |  | [19797](#C_19797) |  |
| @root | 1..1 | SHALL |  | [19798](#C_19798) | 2.16.840.1.113883.10.20.5.6.147 |
| id | 1..1 | SHALL |  | [19799](#C_19799) |  |
| @nullFlavor | 1..1 | SHALL |  | [22780](#C_22780) | NA |
| code | 1..1 | SHALL |  | [19789](#C_19789) |  |
| @code | 1..1 | SHALL |  | [19790](#C_19790) | 2.16.840.1.113883.5.4 (ActCode) = ASSERTION |
| statusCode | 1..1 | SHALL |  | [19791](#C_19791) |  |
| @code | 1..1 | SHALL |  | [19792](#C_19792) | 2.16.840.1.113883.5.14 (ActStatus) = completed |
| value | 1..1 | SHALL | CO | [19793](#C_19793) | 2.16.840.1.113883.6.277 (cdcNHSN) |

1. Conforms to Problem Observation template (identifier: oid:2.16.840.1.113883.10.20.22.4.4).
2. SHALL contain exactly one [1..1] @classCode="OBS" Observation (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 STATIC) (CONF:19787).
3. SHALL contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 STATIC) (CONF:19788).
4. SHALL contain exactly one [1..1] templateId (CONF:28263) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.4.4" (CONF:28264).
5. SHALL contain exactly one [1..1] templateId (CONF:19797) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.6.147" (CONF:19798).
6. SHALL contain exactly one [1..1] id (CONF:19799).
   1. This id SHALL contain exactly one [1..1] @nullFlavor="NA" (CONF:22780).
7. SHALL contain exactly one [1..1] code (CONF:19789).
   1. This code SHALL contain exactly one [1..1] @code="ASSERTION" Assertion (CodeSystem: ActCode 2.16.840.1.113883.5.4 STATIC) (CONF:19790).
8. SHALL contain exactly one [1..1] statusCode (CONF:19791).
   1. This statusCode SHALL contain exactly one [1..1] @code="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14 STATIC) (CONF:19792).
9. SHALL contain exactly one [1..1] value with @xsi:type="CO" (CodeSystem: cdcNHSN 2.16.840.1.113883.6.277 STATIC) (CONF:19793).
   1. The value of value/@codeSystem SHALL be  2.16.840.1.113883.6.277 cdcNHSN, and the value of value/@code SHALL be the number 1 or 2 or 3, where 1 represents the highest-ranked pathogen of up to three pathogens recorded (CONF:19794).

Figure 73: Pathogen Ranking Observation Example

<observation classCode="OBS" moodCode="EVN">

<!-- C-CDA Problem Observation templateId -->

<templateId root="2.16.840.1.113883.10.20.22.4.4"/>

<!-- HAI Pathogen Ranking Observation templateId -->

<templateId root="2.16.840.1.113883.10.20.5.6.147"/>

<id nullFlavor="NA"/>

<code codeSystem="2.16.840.1.113883.5.4"

codeSystemName="HL7"

code="ASSERTION"/>

<statusCode code="completed"/>

<value xsi:type="CO"

codeSystem="2.16.840.1.113883.6.277"

codeSystemName="cdcNHSN"

code="1"

displayName="Pathogen ranking 1"/>

</observation>

PICC/IV Team

[observation: identifier oid:2.16.840.1.113883.10.20.5.6.148 (closed)]

Table 198: PICC/IV Team Contexts

| Contained By: | Contains: |
| --- | --- |
| [Procedure Details Clinical Statement in a CLIP Report](#E_Procedure_Details_CS_in_a_CLIP_Report) (required) |  |

This observation records whether the person who performed the central line insertion was a member of the PICC/IV team. It is used in the Central-Line Insertion Practice Report.

If the performer was a member of the PICC/IV team, set the value of @negationInd to false. If the performer was not a member of the PICC/IV team, set the value of @negationInd to true.

Table 199: PICC/IV Team Constraints Overview

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| XPath | Card. | Verb | Data Type | CONF# | Value |
| observation (identifier: oid:2.16.840.1.113883.10.20.5.6.148) | | | | | |
| @classCode | 1..1 | SHALL |  | [21214](#C_21214) | 2.16.840.1.113883.5.6 (HL7ActClass) = OBS |
| @moodCode | 1..1 | SHALL |  | [21215](#C_21215) | 2.16.840.1.113883.5.1001 (ActMood) = EVN |
| @negationInd | 1..1 | SHALL |  | [21216](#C_21216) |  |
| templateId | 1..1 | SHALL |  | [22002](#C_22002) |  |
| @root | 1..1 | SHALL |  | [22003](#C_22003) | 2.16.840.1.113883.10.20.5.6.148 |
| id | 1..1 | SHALL |  | [22004](#C_22004) |  |
| @nullFlavor | 1..1 | SHALL |  | [22779](#C_22779) | NA |
| code | 1..1 | SHALL |  | [21217](#C_21217) |  |
| @code | 1..1 | SHALL |  | [21218](#C_21218) | 2.16.840.1.113883.5.4 (ActCode) = ASSERTION |
| statusCode | 1..1 | SHALL |  | [21219](#C_21219) |  |
| @code | 1..1 | SHALL |  | [21220](#C_21220) | 2.16.840.1.113883.5.4 (ActCode) = completed |
| value | 1..1 | SHALL |  | [21221](#C_21221) |  |
| @code | 1..1 | SHALL |  | [21222](#C_21222) | 2.16.840.1.113883.6.277 (cdcNHSN) = 3104-7 |

1. SHALL contain exactly one [1..1] @classCode="OBS" Observation (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 STATIC) (CONF:21214).
2. SHALL contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 STATIC) (CONF:21215).
3. SHALL contain exactly [1..1] @negationInd (CONF:21216).
4. SHALL contain exactly one [1..1] templateId (CONF:22002) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.6.148" (CONF:22003).
5. SHALL contain exactly one [1..1] id (CONF:22004).
   1. This id SHALL contain exactly one [1..1] @nullFlavor="NA" (CONF:22779).
6. SHALL contain exactly one [1..1] code (CONF:21217).
   1. This code SHALL contain exactly one [1..1] @code="ASSERTION" Assertion (CodeSystem: ActCode 2.16.840.1.113883.5.4 STATIC) (CONF:21218).
7. SHALL contain exactly one [1..1] statusCode (CONF:21219).
   1. This statusCode SHALL contain exactly one [1..1] @code="completed" COMPLETED (CodeSystem: ActCode 2.16.840.1.113883.5.4 STATIC) (CONF:21220).
8. SHALL contain exactly one [1..1] value (CONF:21221).
   1. This value SHALL contain exactly one [1..1] @code="3104-7" Recorder was performer (CodeSystem: cdcNHSN 2.16.840.1.113883.6.277 STATIC) (CONF:21222).

Figure 74: PICC/IV Team Example

<observation moodCode="EVN" classCode="OBS" negationInd="false">

<templateId root="2.16.840.1.113883.10.20.5.6.148"/>

<id nullFlavor="NA"/>

<code code="ASSERTION"

codeSystem="2.16.840.1.113883.5.4"

codeSystemName="HL7 Act Code"/>

<statusCode code="completed"/>

<value xsi:type="CD"

codeSystem="2.16.840.1.113883.6.277"

codeSystemName="cdcNHSN"

code="3104-7"

displayName="Recorder was performer"/>

</observation>

Positive Blood Culture Observation

[observation: identifier oid:2.16.840.1.113883.10.20.5.6.149 (closed)]

Table 200: Positive Blood Culture Observation Contexts

| Contained By: | Contains: |
| --- | --- |
| [Infection Indicator Organizer](#E_Infection_Indicator_Organizer) (required) | [Suspected Source Observation](#E_Suspected_Source_Observation) |

This clinical statement is an infection indicator. It is used in an Evidence of Infection (Dialysis) Report.

When the infection indicator was present, set the value of @negationInd to false. When the infection indicator was not present, set the value of @negationInd to true.

Table 201: Positive Blood Culture Observation Constraints Overview

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| XPath | Card. | Verb | Data Type | CONF# | Value |
| observation (identifier: oid:2.16.840.1.113883.10.20.5.6.149) | | | | | |
| @classCode | 1..1 | SHALL |  | [19818](#C_19818) | 2.16.840.1.113883.5.6 (HL7ActClass) = OBS |
| @moodCode | 1..1 | SHALL |  | [19819](#C_19819) | 2.16.840.1.113883.5.1001 (ActMood) = EVN |
| @negationInd | 1..1 | SHALL |  | [19820](#C_19820) |  |
| templateId | 1..1 | SHALL |  | [19837](#C_19837) |  |
| @root | 1..1 | SHALL |  | [19838](#C_19838) | 2.16.840.1.113883.10.20.5.6.149 |
| id | 1..1 | SHALL |  | [19839](#C_19839) |  |
| @nullFlavor | 1..1 | SHALL |  | [22781](#C_22781) | NA |
| code | 1..1 | SHALL |  | [19821](#C_19821) |  |
| @code | 1..1 | SHALL |  | [19822](#C_19822) | 2.16.840.1.113883.5.4 (ActCode) = ASSERTION |
| statusCode | 1..1 | SHALL |  | [19823](#C_19823) |  |
| @code | 1..1 | SHALL |  | [19824](#C_19824) | 2.16.840.1.113883.5.14 (ActStatus) = completed |
| value | 1..1 | SHALL | CD | [19825](#C_19825) |  |
| @code | 1..1 | SHALL |  | [19826](#C_19826) | 2.16.840.1.113883.6.277 (cdcNHSN) = 1955-4 |
| entryRelationship | 1..1 | SHALL |  | [19828](#C_19828) |  |
| @typeCode | 1..1 | SHALL |  | [19829](#C_19829) | CAUS |
| @inversionInd | 1..1 | SHALL |  | [19830](#C_19830) | true |
| observation | 1..1 | SHALL |  | [19831](#C_19831) | [Suspected Source Observation (identifier: oid:2.16.840.1.113883.10.20.5.6.168](#E_Suspected_Source_Observation) |

1. Conforms to Problem Observation template (identifier: oid:2.16.840.1.113883.10.20.22.4.4).
2. SHALL contain exactly one [1..1] @classCode="OBS" Observation (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 STATIC) (CONF:19818).
3. SHALL contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 STATIC) (CONF:19819).
4. SHALL contain exactly one [1..1] @negationInd (CONF:19820).
5. SHALL contain exactly one [1..1] templateId (CONF:19837) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.6.149" (CONF:19838).
6. SHALL contain exactly one [1..1] id (CONF:19839).
   1. This id SHALL contain exactly one [1..1] @nullFlavor="NA" (CONF:22781).
7. SHALL contain exactly one [1..1] code (CONF:19821).
   1. This code SHALL contain exactly one [1..1] @code="ASSERTION" Assertion (CodeSystem: ActCode 2.16.840.1.113883.5.4 STATIC) (CONF:19822).
8. SHALL contain exactly one [1..1] statusCode (CONF:19823).
   1. This statusCode SHALL contain exactly one [1..1] @code="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14 STATIC) (CONF:19824).
9. SHALL contain exactly one [1..1] value with @xsi:type="CD" (CONF:19825).
   1. This value SHALL contain exactly one [1..1] @code="1955-4" Positive blood culture (CodeSystem: cdcNHSN 2.16.840.1.113883.6.277 STATIC) (CONF:19826).
10. If the value of @negationInd is 'false', this observation (CONF:19827).
    1. SHALL contain exactly one [1..1] entryRelationship (CONF:19828) such that it
       1. SHALL contain exactly one [1..1] @typeCode="CAUS" (CONF:19829).
       2. SHALL contain exactly one [1..1] @inversionInd="true" (CONF:19830).
       3. SHALL contain exactly one [1..1] [Suspected Source Observation](#E_Suspected_Source_Observation) (identifier: oid:2.16.840.1.113883.10.20.5.6.168) (CONF:19831).
       4. The report SHALL contain a Findings Section (CONF:19832).
11. If the value of @negationInd is ‘true’ (CONF:19833).
    1. The report SHALL NOT contain a Findings Section (CONF:19834).

Figure 75: Positive Blood Culture Observation Example

<observation classCode="OBS" moodCode="EVN" negationInd="false">

<!-- C-CDA Problem Observation templateId -->

<templateId root="2.16.840.1.113883.10.20.22.4.4"/>

<!-- HAI Positive Blood Culture Observation templateId -->

<templateId root="2.16.840.1.113883.10.20.5.6.149"/>

<id nullFlavor="NA"/>

<code code="ASSERTION"

codeSystem="2.16.840.1.113883.5.4"/>

<statusCode code="completed"/>

<value xsi:type="CD"

codeSystem="2.16.840.1.113883.6.277"

codeSystemName="cdcNHSN"

code="1955-4"

displayName="Positive blood culture"/>

<!-- Suspected Source of Pathogen -->

<entryRelationship typeCode="CAUS" inversionInd="true">

<observation classCode="OBS" moodCode="EVN" negationInd="false">

...

</observation>

</entryRelationship>

</observation>

Post-Procedure Observation

[observation: identifier oid:2.16.840.1.113883.10.20.5.6.150 (closed)]

Table 202: Post-Procedure Observation Contexts

| Contained By: | Contains: |
| --- | --- |
| [Infection Details Section in a BSI Report](#S_Infection_Details_Section_in_a_BSI_Re) (optional)  [Infection Details Section in a UTI Report](#S_Infection_Details_Section_in_a_UTI_Re) (optional) | [Procedure Details Clinical Statement in an Infection-Type Report](#E_Procedure_Details_CS_in_an_InfectionT) |

This clinical statement represents a post procedure. In the context in which it is used in the HAI IG, this observation records whether the reported infection occurred during a post-procedure period. If the infection was post-procedure, then a date of the procedure and a procedure code are required.

If the infection was post-procedure, set the value of @negationInd to false. If the infection was not post-procedure, set the value of @negationInd to true.

Table 203: Post-Procedure Observation Constraints Overview

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| XPath | Card. | Verb | Data Type | CONF# | Value |
| observation (identifier: oid:2.16.840.1.113883.10.20.5.6.150) | | | | | |
| @classCode | 1..1 | SHALL |  | [19715](#C_19715) | 2.16.840.1.113883.5.6 (HL7ActClass) = OBS |
| @moodCode | 1..1 | SHALL |  | [19716](#C_19716) | 2.16.840.1.113883.5.1001 (ActMood) = EVN |
| @negationInd | 1..1 | SHALL |  | [19717](#C_19717) |  |
| templateId | 1..1 | SHALL |  | [28265](#C_28265) |  |
| @root | 1..1 | SHALL |  | [28266](#C_28266) | 2.16.840.1.113883.10.20.22.4.4 |
| templateId | 1..1 | SHALL |  | [19742](#C_19742) |  |
| @root | 1..1 | SHALL |  | [19743](#C_19743) | 2.16.840.1.113883.10.20.5.6.150 |
| id | 1..1 | SHALL |  | [19882](#C_19882) |  |
| @nullFlavor | 1..1 | SHALL |  | [22782](#C_22782) | NA |
| code | 1..1 | SHALL |  | [19719](#C_19719) |  |
| @code | 1..1 | SHALL |  | [19720](#C_19720) | 2.16.840.1.113883.5.4 (ActCode) = ASSERTION |
| statusCode | 1..1 | SHALL |  | [19721](#C_19721) |  |
| @code | 1..1 | SHALL |  | [19722](#C_19722) | 2.16.840.1.113883.5.14 (ActStatus) = completed |
| value | 1..1 | SHALL | CD | [19784](#C_19784) |  |
| @code | 1..1 | SHALL |  | [19785](#C_19785) | 3188-0 |
| @codeSystem | 1..1 | SHALL |  | [19786](#C_19786) | 2.16.840.1.113883.6.277 (cdcNHSN) = 2.16.840.1.113883.6.277 |
| entryRelationship | 0..1 | SHOULD |  | [19725](#C_19725) |  |
| @typeCode | 1..1 | SHALL |  | [19726](#C_19726) | 2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR |
| procedure | 1..1 | SHALL |  | [19727](#C_19727) | [Procedure Details Clinical Statement in an Infection-Type Report (identifier: oid:2.16.840.1.113883.10.20.5.6.154](#E_Procedure_Details_CS_in_an_InfectionT) |

1. Conforms to Problem Observation template (identifier: oid:2.16.840.1.113883.10.20.22.4.4).
2. SHALL contain exactly one [1..1] @classCode="OBS" Observation (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 STATIC) (CONF:19715).
3. SHALL contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 STATIC) (CONF:19716).
4. SHALL contain exactly one [1..1] @negationInd (CONF:19717).
5. SHALL contain exactly one [1..1] templateId (CONF:28265) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.4.4" (CONF:28266).
6. SHALL contain exactly one [1..1] templateId (CONF:19742) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.6.150" (CONF:19743).
7. SHALL contain exactly one [1..1] id (CONF:19882).
   1. This id SHALL contain exactly one [1..1] @nullFlavor="NA" (CONF:22782).
8. SHALL contain exactly one [1..1] code (CONF:19719).
   1. This code SHALL contain exactly one [1..1] @code="ASSERTION" Assertion (CodeSystem: ActCode 2.16.840.1.113883.5.4 STATIC) (CONF:19720).
9. SHALL contain exactly one [1..1] statusCode (CONF:19721).
   1. This statusCode SHALL contain exactly one [1..1] @code="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14 STATIC) (CONF:19722).
10. SHALL contain exactly one [1..1] value with @xsi:type="CD" (CONF:19784).
    1. This value SHALL contain exactly one [1..1] @code="3188-0" Infection occurred post-procedure (CONF:19785).
    2. This value SHALL contain exactly one [1..1] @codeSystem="2.16.840.1.113883.6.277" (CodeSystem: cdcNHSN 2.16.840.1.113883.6.277) (CONF:19786).
11. SHOULD contain zero or one [0..1] entryRelationship (CONF:19725).
    1. The entryRelationship, if present, SHALL contain exactly one [1..1] @typeCode="REFR" (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002 STATIC) (CONF:19726).
    2. The entryRelationship, if present, SHALL contain exactly one [1..1] [Procedure Details Clinical Statement in an Infection-Type Report](#E_Procedure_Details_CS_in_an_InfectionT) (identifier: oid:2.16.840.1.113883.10.20.5.6.154) (CONF:19727).
    3. If the value of @negationInd is false this entryRelationship SHALL be present (CONF:19728).

Figure 76: Post-Procedure Observation Example

<observation classCode="OBS" moodCode="EVN" negationInd="true">

<!-- C-CDA Problem Observation templateId -->

<templateId root="2.16.840.1.113883.10.20.22.4.4"/>

<!-- HAI Post-procedure Observation templateId -->

<templateId root="2.16.840.1.113883.10.20.5.6.150"/>

<id nullFlavor="NA"/>

<code codeSystem="2.16.840.1.113883.5.4"

code="ASSERTION"/>

<statusCode code="completed"/>

<value xsi:type="CD"

codeSystem="2.16.840.1.113883.6.277"

codeSystemName="cdcNHSN"

code="3188-0"

displayName="Infection occurred post-procedure"/>

...

</observation>

Prior Discharge Encounter

[encounter: identifier oid:2.16.840.1.113883.10.20.5.6.151 (closed)]

Table 204: Prior Discharge Encounter Contexts

| Contained By: | Contains: |
| --- | --- |
| [Encounters Section in a LIO Report](#S_Encounters_Section_in_a_LIO_Report) (required) |  |

The Prior Discharge Encounter records the date of a prior discharge from the facility. It is used in a LIO Report to record a past discharge within 3 months.

Table 205: Prior Discharge Encounter Constraints Overview

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| XPath | Card. | Verb | Data Type | CONF# | Value |
| encounter (identifier: oid:2.16.840.1.113883.10.20.5.6.151) | | | | | |
| @classCode | 1..1 | SHALL |  | [21703](#C_21703) | 2.16.840.1.113883.5.6 (HL7ActClass) = ENC |
| @moodCode | 1..1 | SHALL |  | [21704](#C_21704) | 2.16.840.1.113883.5.1001 (ActMood) = EVN |
| templateId | 1..1 | SHALL |  | [21714](#C_21714) |  |
| @root | 1..1 | SHALL |  | [21715](#C_21715) | 2.16.840.1.113883.10.20.5.6.151 |
| id | 1..\* | SHALL |  | [21705](#C_21705) |  |
| @nullFlavor | 1..1 | SHALL |  | [21706](#C_21706) | NA |
| code | 1..1 | SHALL |  | [21707](#C_21707) |  |
| @code | 1..1 | SHALL |  | [21708](#C_21708) | 2.16.840.1.113883.5.4 (ActCode) = IMP |
| effectiveTime | 1..1 | SHALL |  | [21709](#C_21709) |  |
| high | 1..1 | SHALL |  | [21710](#C_21710) |  |
| @value | 1..1 | SHALL |  | [21711](#C_21711) |  |

1. Conforms to Encounter Activities template (identifier: oid:2.16.840.1.113883.10.20.22.4.49).
2. SHALL contain exactly one [1..1] @classCode="ENC" Encounter (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 STATIC) (CONF:21703).
3. SHALL contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 STATIC) (CONF:21704).
4. SHALL contain exactly one [1..1] templateId (CONF:21714) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.6.151" (CONF:21715).
5. SHALL contain at least one [1..\*] id (CONF:21705).
   1. Such ids SHALL contain exactly one [1..1] @nullFlavor="NA" (CONF:21706).
6. SHALL contain exactly one [1..1] code (CONF:21707).
   1. This code SHALL contain exactly one [1..1] @code="IMP" Inpatient encounter (CodeSystem: ActCode 2.16.840.1.113883.5.4 STATIC) (CONF:21708).
7. SHALL contain exactly one [1..1] effectiveTime (CONF:21709).
   1. This effectiveTime SHALL contain exactly one [1..1] high (CONF:21710).
      1. This high SHALL contain exactly one [1..1] @value (CONF:21711).

Figure 77: Prior Discharge Encounter Example

<entry typeCode="DRIV">

<encounter classCode="ENC" moodCode="EVN">

<!-- C-CDA Encounter activity template -->

<templateId root="2.16.840.1.113883.10.20.22.4.49" />

<!-- HAI Prior Discharge Encounter template -->

<templateId root="2.16.840.1.113883.10.20.5.6.151" />

<id nullFlavor="NA" />

<code codeSystem="2.16.840.1.113883.5.4"

code="IMP"

displayName="Inpatient encounter" />

<effectiveTime>

<high value="20081205"/>

</effectiveTime>

</encounter>

</entry>

Procedure Details Clinical Statement in a CLIP Report

[procedure: identifier oid:2.16.840.1.113883.10.20.5.6.155 (closed)]

Table 206: Procedure Details Clinical Statement in a CLIP Report Contexts

| Contained By: | Contains: |
| --- | --- |
| [Procedure Details Section in a CLIP Report](#S_Procedure_Details_Section_in_a_CLIP_R) (required) | [PICC/IV Team](#E_PICCIV_Team)  [Reason for Procedure Observation](#E_Reason_for_Procedure_Observation)  [Recorder Observation](#E_Recorder_Observation) |

This clinical statement records the detail required in a CLIP Report about the central line insertion procedure.

If the procedure resulted in a successful central-line insertion, set the value of statusCode/@code to completed. If the procedure did not result in a successful central-line insertion, set the value of statusCode/@code to aborted.

The performer element records the identifier and role of the person who performed the procedure.

The participant element identifies the catheter type.

Table 207: Procedure Details Clinical Statement in a CLIP Report Constraints Overview

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| XPath | Card. | Verb | Data Type | CONF# | Value |
| procedure (identifier: oid:2.16.840.1.113883.10.20.5.6.155) | | | | | |
| @classCode | 1..1 | SHALL |  | [21605](#C_21605) | 2.16.840.1.113883.5.6 (HL7ActClass) = PROC |
| @moodCode | 1..1 | SHALL |  | [21606](#C_21606) | 2.16.840.1.113883.5.1001 (ActMood) = EVN |
| templateId | 1..1 | SHALL |  | [28267](#C_28267) |  |
| @root | 1..1 | SHALL |  | [28268](#C_28268) | 2.16.840.1.113883.10.20.22.4.14 |
| templateId | 1..1 | SHALL |  | [21637](#C_21637) |  |
| @root | 1..1 | SHALL |  | [21638](#C_21638) | 2.16.840.1.113883.10.20.5.6.155 |
| id | 1..1 | SHALL |  | [21639](#C_21639) |  |
| @nullFlavor | 1..1 | SHALL |  | [22784](#C_22784) | NA |
| code | 1..1 | SHALL |  | [21607](#C_21607) |  |
| @code | 1..1 | SHALL |  | [21608](#C_21608) | 2.16.840.1.113883.6.96 (SNOMED CT) = 233527006 |
| statusCode | 1..1 | SHALL |  | [21609](#C_21609) | 2.16.840.1.113883.11.20.9.22 (ProcedureAct statusCode) |
| effectiveTime | 1..1 | SHALL |  | [21610](#C_21610) |  |
| targetSiteCode | 1..1 | SHALL |  | [21611](#C_21611) | 2.16.840.1.114222.4.11.3180 (NHSNInsertionSiteCode) |
| performer | 1..1 | SHALL |  | [21613](#C_21613) |  |
| assignedEntity | 1..1 | SHALL |  | [21614](#C_21614) |  |
| id | 1..1 | SHALL |  | [21615](#C_21615) |  |
| code | 1..1 | SHALL |  | [21617](#C_21617) |  |
| participant | 1..1 | SHALL |  | [21619](#C_21619) |  |
| @typeCode | 1..1 | SHALL |  | [21620](#C_21620) | 2.16.840.1.113883.5.90 (HL7ParticipationType) = DEV |
| participantRole | 1..1 | SHALL |  | [21621](#C_21621) |  |
| @classCode | 1..1 | SHALL |  | [21622](#C_21622) | 2.16.840.1.113883.5.110 (RoleClass) = MANU |
| playingDevice | 1..1 | SHALL |  | [21623](#C_21623) |  |
| code | 1..1 | SHALL |  | [21624](#C_21624) |  |
| entryRelationship | 1..1 | SHALL |  | [21626](#C_21626) |  |
| @typeCode | 1..1 | SHALL |  | [21627](#C_21627) | 2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = COMP |
| observation | 1..1 | SHALL |  | [21628](#C_21628) | [Recorder Observation (identifier: oid:2.16.840.1.113883.10.20.5.6.159](#E_Recorder_Observation) |
| entryRelationship | 1..1 | SHALL |  | [21629](#C_21629) |  |
| @typeCode | 1..1 | SHALL |  | [21630](#C_21630) | 2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = RSON |
| observation | 1..1 | SHALL |  | [21631](#C_21631) | [Reason for Procedure Observation (identifier: oid:2.16.840.1.113883.10.20.5.6.158](#E_Reason_for_Procedure_Observation) |
| entryRelationship | 1..1 | SHALL |  | [21632](#C_21632) |  |
| @typeCode | 1..1 | SHALL |  | [21633](#C_21633) | 2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = COMP |
| observation | 1..1 | SHALL |  | [21634](#C_21634) | [PICC/IV Team (identifier: oid:2.16.840.1.113883.10.20.5.6.148](#E_PICCIV_Team) |

1. Conforms to Procedure Activity Procedure template (identifier: oid:2.16.840.1.113883.10.20.22.4.14).
2. SHALL contain exactly one [1..1] @classCode="PROC" Procedure (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 STATIC) (CONF:21605).
3. SHALL contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 STATIC) (CONF:21606).
4. SHALL contain exactly one [1..1] templateId (CONF:28267) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.4.14" (CONF:28268).
5. SHALL contain exactly one [1..1] templateId (CONF:21637) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.6.155" (CONF:21638).
6. SHALL contain exactly one [1..1] id (CONF:21639).
   1. This id SHALL contain exactly one [1..1] @nullFlavor="NA" (CONF:22784).
7. SHALL contain exactly one [1..1] code (CONF:21607).
   1. This code SHALL contain exactly one [1..1] @code="233527006" Central-line insertion (CodeSystem: SNOMED CT 2.16.840.1.113883.6.96 STATIC) (CONF:21608).
8. SHALL contain exactly one [1..1] statusCode, which SHALL be selected from ValueSet [ProcedureAct statusCode](#ProcedureAct_statusCode) 2.16.840.1.113883.11.20.9.22 DYNAMIC (CONF:21609).
9. SHALL contain exactly one [1..1] effectiveTime (CONF:21610).
10. SHALL contain exactly one [1..1] targetSiteCode, which SHALL be selected from ValueSet [NHSNInsertionSiteCode](#NHSNInsertionSiteCode) 2.16.840.1.114222.4.11.3180 DYNAMIC (CONF:21611).
11. SHALL contain exactly one [1..1] performer (CONF:21613).
    1. This performer SHALL contain exactly one [1..1] assignedEntity (CONF:21614).
       1. This assignedEntity SHALL contain exactly one [1..1] id (CONF:21615).
          1. If the performer ID is not known, the value of performer/assignedEntity/id/@nullFlavor SHALL be UNK (CONF:21616).
       2. This assignedEntity SHALL contain exactly one [1..1] code (CONF:21617).
          1. If the occupation is recorded as a code, the value of @xsi:type SHALL be CD and the value of @code SHALL be selected from ValueSet 2.16.840.1.114222.4.11.3181 NHSNRoleOfPerformerCode DYNAMIC. If the occupation is recorded as text, the value of @nullFlavor SHALL be OTH and the code element SHALL contain an originalText element recording the occupation of the performer (CONF:21618).
12. SHALL contain exactly one [1..1] participant (CONF:21619).
    1. This participant SHALL contain exactly one [1..1] @typeCode="DEV" Device (CodeSystem: HL7ParticipationType 2.16.840.1.113883.5.90 STATIC) (CONF:21620).
    2. This participant SHALL contain exactly one [1..1] participantRole (CONF:21621).
       1. This participantRole SHALL contain exactly one [1..1] @classCode="MANU" Manufactured product (CodeSystem: RoleClass 2.16.840.1.113883.5.110 STATIC) (CONF:21622).
       2. This participantRole SHALL contain exactly one [1..1] playingDevice (CONF:21623).
          1. This playingDevice SHALL contain exactly one [1..1] code (CONF:21624).
             1. To record the catheter type as a code, the value of @code SHALL be selected from ValueSet 2.16.840.1.114222.4.11.3185 NHSNCatheterTypeCode STATIC 20090625. Or, to record the catheter type as text, the value of @nullFlavor SHALL be OTH and an originalText element SHALL be present (CONF:21625).
13. SHALL contain exactly one [1..1] entryRelationship (CONF:21626) such that it
    1. SHALL contain exactly one [1..1] @typeCode="COMP" Has component (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002 STATIC) (CONF:21627).
    2. SHALL contain exactly one [1..1] [Recorder Observation](#E_Recorder_Observation) (identifier: oid:2.16.840.1.113883.10.20.5.6.159) (CONF:21628).
14. SHALL contain exactly one [1..1] entryRelationship (CONF:21629) such that it
    1. SHALL contain exactly one [1..1] @typeCode="RSON" Has reason (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002 STATIC) (CONF:21630).
    2. SHALL contain exactly one [1..1] [Reason for Procedure Observation](#E_Reason_for_Procedure_Observation) (identifier: oid:2.16.840.1.113883.10.20.5.6.158) (CONF:21631).
15. SHALL contain exactly one [1..1] entryRelationship (CONF:21632) such that it
    1. SHALL contain exactly one [1..1] @typeCode="COMP" Has component (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002 STATIC) (CONF:21633).
    2. SHALL contain exactly one [1..1] [PICC/IV Team](#E_PICCIV_Team) (identifier: oid:2.16.840.1.113883.10.20.5.6.148) (CONF:21634).

Table 208: NHSNInsertionSiteCode

|  |  |  |  |
| --- | --- | --- | --- |
| Value Set: NHSNInsertionSiteCode 2.16.840.1.114222.4.11.3180  Code System: SNOMED CT 2.16.840.1.113883.6.96 | | | |
| Code | Code System | Code System OID | Print Name |
| 9454009 | SNOMED CT | 2.16.840.1.113883.6.96 | Subclavian vein |
| 63190004 | SNOMED CT | 2.16.840.1.113883.6.96 | Jugular vein |
| 83419000 | SNOMED CT | 2.16.840.1.113883.6.96 | Femoral vein |
| 122774002 | SNOMED CT | 2.16.840.1.113883.6.96 | Vein of lower extremity |
| 122775001 | SNOMED CT | 2.16.840.1.113883.6.96 | Vein of upper extremity |
| 307054003 | SNOMED CT | 2.16.840.1.113883.6.96 | Vein of scalp |
| 408728001 | SNOMED CT | 2.16.840.1.113883.6.96 | Umbilical vein or artery |

Table 209: NHSNRoleOfPerformerCode

|  |  |  |  |
| --- | --- | --- | --- |
| Value Set: NHSNRoleOfPerformerCode 2.16.840.1.114222.4.11.3181  Code System: SNOMED CT 2.16.840.1.113883.6.96 or cdcNHSN 2.16.840.1.113883.6.277 or NUCC 2.16.840.1.113883.6.101 | | | |
| Code | Code System | Code System OID | Print Name |
| 65853000 | SNOMED CT | 2.16.840.1.113883.6.96 | Student (not medical) |
| 398130009 | SNOMED CT | 2.16.840.1.113883.6.96 | Student (medical) |
| 405277009 | SNOMED CT | 2.16.840.1.113883.6.96 | Intern/resident |
| 405279007 | SNOMED CT | 2.16.840.1.113883.6.96 | Attending physician |
| 2212-9 | cdcNHSN | 2.16.840.1.113883.6.277 | PICC Team |
| 4100-4 | cdcNHSN | 2.16.840.1.113883.6.277 | IV Team |
| 4101-2 | cdcNHSN | 2.16.840.1.113883.6.277 | Physician assistant |
| 4102-0 | cdcNHSN | 2.16.840.1.113883.6.277 | Medical staff not otherwise specified |
| 4103-8 | cdcNHSN | 2.16.840.1.113883.6.277 | Fellow |
| 363L00000X | Healthcare Provider Taxonomy (HIPAA) | 2.16.840.1.113883.6.101 | Nurse Practitioner |
| 163W00000X | Healthcare Provider Taxonomy (HIPAA) | 2.16.840.1.113883.6.101 | Registered Nurse |

Table 210: NHSNCatheterTypeCode

|  |  |  |  |
| --- | --- | --- | --- |
| Value Set: NHSNCatheterTypeCode 2.16.840.1.114222.4.11.3185  Code System: cdcNHSN 2.16.840.1.113883.6.277 | | | |
| Code | Code System | Code System OID | Print Name |
| 1116-3 | cdcNHSN | 2.16.840.1.113883.6.277 | Umbilical |
| 1117-1 | cdcNHSN | 2.16.840.1.113883.6.277 | Tunneled, dialysis |
| 1118-9 | cdcNHSN | 2.16.840.1.113883.6.277 | Tunneled, other than dialysis |
| 1119-7 | cdcNHSN | 2.16.840.1.113883.6.277 | Non-tunneled, dialysis |
| 1120-5 | cdcNHSN | 2.16.840.1.113883.6.277 | Non-tunneled, other than dialysis |
| 3115-3 | cdcNHSN | 2.16.840.1.113883.6.277 | PICC |

Figure 78: Procedure Details Clinical Statement in a CLIP Report Example

<procedure moodCode="EVN" classCode="PROC">

<!-- C-CDA Procedure Activity Procedure templateId -->

<templateId root="2.16.840.1.113883.10.20.22.4.14" />

<!-- HAI Procedure Details Clinical Statement in a CLIP Report templateId -->

<templateId root="2.16.840.1.113883.10.20.5.6.155" />

<id nullFlavor="NA" />

<code code="233527006"

codeSystem="2.16.840.1.113883.6.96"

codeSystemName="SNOMED CT"

displayName="Central-line Insertion" />

<statusCode code="completed" />

<effectiveTime value="20080805" />

<targetSiteCode code="83419000"

codeSystem="2.16.840.1.113883.6.96"

codeSystemName="SNOMED CT"

displayName="Femoral vein" />

<performer>

<assignedEntity>

<id nullFlavor="UNK" />

<code codeSystem="2.16.840.1.113883.6.277"

codeSystemName="cdcNHSN"

code="4101-2"

displayName="Physician assistant" />

</assignedEntity>

</performer>

<participant typeCode="DEV">

<participantRole classCode="MANU">

<playingDevice>

<code codeSystem="2.16.840.1.113883.6.277"

codeSystemName="cdcNHSN"

code="1119-7"

displayName="Non-tunneled central line, dialysis" />

</playingDevice>

</participantRole>

</participant>

<entryRelationship typeCode="COMP">

<observation moodCode="EVN" classCode="OBS" negationInd="false">

<!-- Recorder Observation templateId -->

<templateId root="2.16.840.1.113883.10.20.5.6.159"/>

...

</observation>

</entryRelationship>

<entryRelationship typeCode="RSON">

<observation moodCode="EVN" classCode="OBS" negationInd="false">

<!-- C-CDA Indication templateId -->

<templateId root="2.16.840.1.113883.10.20.22.4.19"/>

<!-- Reason for Procedure Observation templateId -->

<templateId root="2.16.840.1.113883.10.20.5.6.158"/>

...

</observation>

</entryRelationship>

<entryRelationship typeCode="COMP">

<observation moodCode="EVN" classCode="OBS" negationInd="false">

<!-- PICC/IV Team templateId -->

<templateId root="2.16.840.1.113883.10.20.5.6.148"/>

...

</observation>

</entryRelationship>

</procedure>

Procedure Details Clinical Statement in a Procedure Report (V2)

[procedure: identifier oid:2.16.840.1.113883.10.20.5.6.153.2 (closed)]

Table 211: Procedure Details Clinical Statement in a Procedure Report (V2) Contexts

| Contained By: | Contains: |
| --- | --- |
| [Procedure Details Section in a Procedure Report (V2)](#Procedure_Details_Section_in_a_Procedur) (required) | [Anesthesia Administration Clinical Statement](#E_Anesthesia_Administration_Clinical_St)  [Closure Technique Procedure](#E_Closure_Technique_Procedure)  [Revision Associated with Prior Infection Observation](#Revision_Associated_with_Prior_Infectio)  [Spinal Fusion Level Observation](#E_Spinal_Fusion_Level_Observation) |

This clinical statement records the detail required in a Procedure Report about a procedure.

NHSN uses the procedure id, along with other data, to establish a link between a Procedure Report and an SSI Report; the value of the procedure id must be the same in both the report of a procedure and the report of a surgical-site infection resulting from that procedure. In this template, the priority code represents the main or primary procedure for the patient in the context of this report.

Table 212: Procedure Details Clinical Statement in a Procedure Report (V2) Constraints Overview

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| XPath | Card. | Verb | Data Type | CONF# | Value |
| procedure (identifier: oid:2.16.840.1.113883.10.20.5.6.153.2) | | | | | |
| @classCode | 1..1 | SHALL |  | [21654](#C_21654) | 2.16.840.1.113883.5.6 (HL7ActClass) = PROC |
| @moodCode | 1..1 | SHALL |  | [21655](#C_21655) | 2.16.840.1.113883.5.1001 (ActMood) = EVN |
| templateId | 1..1 | SHALL |  | [30303](#C_30303) |  |
| @root | 1..1 | SHALL |  | [30304](#C_30304) | 2.16.840.1.113883.10.20.22.4.14 |
| templateId | 1..1 | SHALL |  | [21695](#C_21695) |  |
| @root | 1..1 | SHALL |  | [30250](#C_30250) | 2.16.840.1.113883.10.20.5.6.153.2 |
| id | 1..1 | SHALL |  | [21656](#C_21656) |  |
| code | 1..1 | SHALL |  | [21657](#C_21657) | 2.16.840.1.113883.13.17 (NHSNProcedureCategoryCode) |
| translation | 0..1 | MAY |  | [21698](#C_21698) |  |
| statusCode | 1..1 | SHALL |  | [21700](#C_21700) | 2.16.840.1.113883.11.20.9.22 (ProcedureAct statusCode) |
| effectiveTime | 1..1 | SHALL |  | [21661](#C_21661) |  |
| low | 1..1 | SHALL |  | [21662](#C_21662) |  |
| width | 1..1 | SHALL |  | [21663](#C_21663) |  |
| priorityCode | 0..1 | MAY |  | [21664](#C_21664) |  |
| @nullFlavor | 0..1 | MAY |  | [21665](#C_21665) | NA |
| @code | 0..1 | MAY |  | [21666](#C_21666) | 2.16.840.1.113883.6.96 (SNOMED CT) = 63161005 |
| methodCode | 0..1 | MAY |  | [21667](#C_21667) |  |
| @code | 1..1 | SHOULD |  | [21668](#C_21668) |  |
| approachSiteCode | 0..1 | MAY |  | [21671](#C_21671) |  |
| @nullFlavor | 0..1 | MAY |  | [21672](#C_21672) | NI |
| @code | 0..1 | MAY |  | [21673](#C_21673) | 2.16.840.1.113883.13.2 (NHSNSpinalFusionApproachCode) |
| performer | 0..1 | MAY |  | [21675](#C_21675) |  |
| @typeCode | 1..1 | SHALL |  | [21676](#C_21676) | PRF |
| assignedEntity | 1..1 | SHALL |  | [21677](#C_21677) |  |
| id | 1..\* | SHALL |  | [21678](#C_21678) |  |
| @root | 1..1 | SHALL |  | [21679](#C_21679) |  |
| @extension | 1..1 | SHALL |  | [21681](#C_21681) |  |
| entryRelationship | 1..1 | SHALL |  | [21683](#C_21683) |  |
| @typeCode | 1..1 | SHALL |  | [21684](#C_21684) | 2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = COMP |
| substanceAdministration | 1..1 | SHALL |  | [21685](#C_21685) | [Anesthesia Administration Clinical Statement (identifier: oid:2.16.840.1.113883.10.20.5.6.112](#E_Anesthesia_Administration_Clinical_St) |
| entryRelationship | 0..1 | MAY |  | [21686](#C_21686) |  |
| @typeCode | 1..1 | SHALL |  | [21687](#C_21687) | 2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = COMP |
| observation | 1..1 | SHALL |  | [21688](#C_21688) | [Spinal Fusion Level Observation (identifier: oid:2.16.840.1.113883.10.20.5.6.166](#E_Spinal_Fusion_Level_Observation) |
| entryRelationship | 0..1 | SHALL |  | [21690](#C_21690) |  |
| @typeCode | 1..1 | SHALL |  | [21691](#C_21691) | 2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = COMP |
| procedure | 1..1 | SHALL |  | [21692](#C_21692) | [Closure Technique Procedure (identifier: oid:2.16.840.1.113883.10.20.5.6.117](#E_Closure_Technique_Procedure) |
| entryRelationship | 0..1 | MAY |  | [30241](#C_30241) |  |
| @typeCode | 1..1 | SHALL |  | [30242](#C_30242) | 2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = COMP |
| observation | 1..1 | SHALL |  | [30243](#C_30243) | [Revision Associated with Prior Infection Observation (identifier: oid:2.16.840.1.113883.10.20.5.6.204](#Revision_Associated_with_Prior_Infectio) |

1. Conforms to Procedure Activity Procedure template (identifier: oid:2.16.840.1.113883.10.20.22.4.14).
2. SHALL contain exactly one [1..1] @classCode="PROC" Procedure (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 STATIC) (CONF:21654).
3. SHALL contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 STATIC) (CONF:21655).
4. SHALL contain exactly one [1..1] templateId (CONF:30303) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.4.14" (CONF:30304).
5. SHALL contain exactly one [1..1] templateId (CONF:21695) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.6.153.2" (CONF:30250).
6. SHALL contain exactly one [1..1] id (CONF:21656).
7. SHALL contain exactly one [1..1] code, which SHALL be selected from ValueSet [NHSNProcedureCategoryCode](#NHSNProcedureCategoryCode) 2.16.840.1.113883.13.17 (CONF:21657).
   1. This code MAY contain zero or one [0..1] translation (CONF:21698).
      1. This code/translation MAY be used for sending an ICD-9 code (CONF:21699).
8. SHALL contain exactly one [1..1] statusCode, which SHALL be selected from ValueSet [ProcedureAct statusCode](#ProcedureAct_statusCode) 2.16.840.1.113883.11.20.9.22 DYNAMIC (CONF:21700).
9. SHALL contain exactly one [1..1] effectiveTime (CONF:21661).
   1. This effectiveTime SHALL contain exactly one [1..1] low (CONF:21662).
   2. This effectiveTime SHALL contain exactly one [1..1] width (CONF:21663).
10. MAY contain zero or one [0..1] priorityCode (CONF:21664).
    1. The priorityCode, if present, MAY contain zero or one [0..1] @nullFlavor="NA" (CONF:21665).
    2. The priorityCode, if present, MAY contain zero or one [0..1] @code="63161005" Principal (CodeSystem: SNOMED CT 2.16.840.1.113883.6.96 STATIC) (CONF:21666).
11. MAY contain zero or one [0..1] methodCode (CONF:21667).
    1. The methodCode, if present, SHOULD contain exactly one [1..1] @code (CONF:21668).
    2. If the procedure category code represents a hip replacement, a methodCode element SHALL be present where the value of @code  is selected from Value Set 2.16.840.1.113883.13.3 NHSNHipReplacementCode STATIC 20090625 (CONF:21669).
    3. If the procedure category code represents a knee replacement, a methodCode element SHALL be present where the value of @code is selected from Value Set 2.16.840.1.113883.13.4 NHSNKneeReplacementCode STATIC 20090625 (CONF:21670).
12. MAY contain zero or one [0..1] approachSiteCode (CONF:21671).
    1. The approachSiteCode, if present, MAY contain zero or one [0..1] @nullFlavor="NI" (CONF:21672).
    2. The approachSiteCode, if present, MAY contain zero or one [0..1] @code, which SHALL be selected from ValueSet [NHSNSpinalFusionApproachCode](#NHSNSpinalFusionApproachCode) 2.16.840.1.113883.13.2 STATIC 2012-08-08 (CONF:21673).
    3. If the procedure is a fusion or refusion (code/@code is either 2137-8 or 2135-2), an approachSiteCode element SHALL be present. If the approach site is known, the value of @code SHALL be selected from Value Set 2.16.840.1.113883.13.2 NHSNSpinalFusionApproachCode STATIC 20120808. If the approach site is not specified, the value of code@nullFlavor SHALL be NI (CONF:21674).
13. MAY contain zero or one [0..1] performer (CONF:21675).
    1. The performer, if present, SHALL contain exactly one [1..1] @typeCode="PRF" (CONF:21676).
    2. The performer, if present, SHALL contain exactly one [1..1] assignedEntity (CONF:21677).
       1. This assignedEntity SHALL contain at least one [1..\*] id (CONF:21678).
          1. Such ids SHALL contain exactly one [1..1] @root (CONF:21679).
             1. This @root SHALL be the facility's identifier (CONF:21680).
          2. Such ids SHALL contain exactly one [1..1] @extension (CONF:21681).
             1. This @extension SHALL be the surgeon's identifier (CONF:21682).
14. SHALL contain exactly one [1..1] entryRelationship (CONF:21683) such that it
    1. SHALL contain exactly one [1..1] @typeCode="COMP" Has component (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002 STATIC) (CONF:21684).
    2. SHALL contain exactly one [1..1] [Anesthesia Administration Clinical Statement](#E_Anesthesia_Administration_Clinical_St) (identifier: oid:2.16.840.1.113883.10.20.5.6.112) (CONF:21685).
15. MAY contain zero or one [0..1] entryRelationship (CONF:21686) such that it
    1. SHALL contain exactly one [1..1] @typeCode="COMP" (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002 STATIC) (CONF:21687).
    2. SHALL contain exactly one [1..1] [Spinal Fusion Level Observation](#E_Spinal_Fusion_Level_Observation) (identifier: oid:2.16.840.1.113883.10.20.5.6.166) (CONF:21688).
    3. If the procedure is a fusion or refusion, this entryRelationship SHALL be present (CONF:21689).
16. SHALL contain zero or one [0..1] entryRelationship (CONF:21690) such that it
    1. SHALL contain exactly one [1..1] @typeCode="COMP" (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002 STATIC) (CONF:21691).
    2. SHALL contain exactly one [1..1] [Closure Technique Procedure](#E_Closure_Technique_Procedure) (identifier: oid:2.16.840.1.113883.10.20.5.6.117) (CONF:21692).
17. MAY contain zero or one [0..1] entryRelationship (CONF:30241) such that it
    1. SHALL contain exactly one [1..1] @typeCode="COMP" (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002) (CONF:30242).
    2. SHALL contain exactly one [1..1] [Revision Associated with Prior Infection Observation](#Revision_Associated_with_Prior_Infectio) (identifier: oid:2.16.840.1.113883.10.20.5.6.204) (CONF:30243).
    3. If the procedure is a total revision or a partial revision of an HPRO or KPRO, this entryRelationship SHALL be present (CONF:30251).

Table 213: NHSNProcedureCategoryCode

|  |  |  |  |
| --- | --- | --- | --- |
| Value Set: NHSNProcedureCategoryCode 2.16.840.1.113883.13.17  Code System: cdcNHSN 2.16.840.1.113883.6.277    NHSN's value set for the clinical statement recording procedure details in SSI, CLIP, and Procedure Reports.                                                    The full table is shown in the hai\_voc.xls file provided with this package. | | | |
| Code | Code System | Code System OID | Print Name |
| 2105-5 | cdcNHSN | 2.16.840.1.113883.6.277 | Abdominal aortic aneurysm repair |
| 2107-1 | cdcNHSN | 2.16.840.1.113883.6.277 | Abdominal hysterectomy |
| 2108-9 | cdcNHSN | 2.16.840.1.113883.6.277 | Appendix surgery |
| 2102-2 | cdcNHSN | 2.16.840.1.113883.6.277 | AV shunt for dialysis |
| 2109-7 | cdcNHSN | 2.16.840.1.113883.6.277 | Bile duct, liver or pancreatic surgery |
| 2110-5 | cdcNHSN | 2.16.840.1.113883.6.277 | Breast surgery |
| 2111-3 | cdcNHSN | 2.16.840.1.113883.6.277 | Cardiac Surgery |
| 2114-7 | cdcNHSN | 2.16.840.1.113883.6.277 | Carotid endarterectomy |
| 2115-4 | cdcNHSN | 2.16.840.1.113883.6.277 | Cesarean section |
| 2116-2 | cdcNHSN | 2.16.840.1.113883.6.277 | Colon surgery |
| 2112-1 | cdcNHSN | 2.16.840.1.113883.6.277 | Coronary artery bypass graft with both chest and donor site incisions |
| 2113-9 | cdcNHSN | 2.16.840.1.113883.6.277 | Coronary artery bypass graft with chest incision only |
| 2117-0 | cdcNHSN | 2.16.840.1.113883.6.277 | Craniotomy |
| 2118-8 | cdcNHSN | 2.16.840.1.113883.6.277 | Exploratory abdominal surgery |
| 2119-6 | cdcNHSN | 2.16.840.1.113883.6.277 | Gallbladder surgery |
| 2120-4 | cdcNHSN | 2.16.840.1.113883.6.277 | Gastric surgery |
| 2121-2 | cdcNHSN | 2.16.840.1.113883.6.277 | Heart transplant |
| 2106-3 | cdcNHSN | 2.16.840.1.113883.6.277 | Herniorrhaphy |
| 2101-4 | cdcNHSN | 2.16.840.1.113883.6.277 | Hip Replacement |
| 2122-0 | cdcNHSN | 2.16.840.1.113883.6.277 | Kidney surgery |
| ... | | | |

Table 214: ProcedureAct statusCode

|  |  |  |  |
| --- | --- | --- | --- |
| Value Set: ProcedureAct statusCode 2.16.840.1.113883.11.20.9.22  Code System: ActStatus 2.16.840.1.113883.5.14    A ValueSet of HL7 actStatus codes for use with a procedure activity | | | |
| Code | Code System | Code System OID | Print Name |
| completed | ActStatus | 2.16.840.1.113883.5.14 | Completed |
| active | ActStatus | 2.16.840.1.113883.5.14 | Active |
| aborted | ActStatus | 2.16.840.1.113883.5.14 | Aborted |
| cancelled | ActStatus | 2.16.840.1.113883.5.14 | Cancelled |

Table 215: NHSNHipReplacementCode

|  |  |  |  |
| --- | --- | --- | --- |
| Value Set: NHSNHipReplacementCode 2.16.840.1.113883.13.3  Code System: cdcNHSN 2.16.840.1.113883.6.277 | | | |
| Code | Code System | Code System OID | Print Name |
| 1413-4 | cdcNHSN | 2.16.840.1.113883.6.277 | Total: Total Primary Hip Replacement |
| 1414-2 | cdcNHSN | 2.16.840.1.113883.6.277 | Total: Total Revision Hip Replacement |
| 1415-9 | cdcNHSN | 2.16.840.1.113883.6.277 | Total: Partial Revision Hip Replacement |
| 1416-7 | cdcNHSN | 2.16.840.1.113883.6.277 | Hemi: Partial Primary Hip Replacement |
| 1417-5 | cdcNHSN | 2.16.840.1.113883.6.277 | Hemi: Total Revision Hip Replacement |
| 1418-3 | cdcNHSN | 2.16.840.1.113883.6.277 | Hemi: Partial Revision Hip Replacement |
| 1419-1 | cdcNHSN | 2.16.840.1.113883.6.277 | Resurfacing: Total Primary Hip Replacement |
| 1420-9 | cdcNHSN | 2.16.840.1.113883.6.277 | Resurfacing: Total Revision Hip Replacement |
| 1421-7 | cdcNHSN | 2.16.840.1.113883.6.277 | Resurfacing: Partial Primary Hip Replacement |
| 1422-5 | cdcNHSN | 2.16.840.1.113883.6.277 | Resurfacing: Partial Revision Hip Replacement |

Table 216: NHSNKneeReplacementCode

|  |  |  |  |
| --- | --- | --- | --- |
| Value Set: NHSNKneeReplacementCode 2.16.840.1.113883.13.4  Code System: cdcNHSN 2.16.840.1.113883.6.277 | | | |
| Code | Code System | Code System OID | Print Name |
| 1406-8 | cdcNHSN | 2.16.840.1.113883.6.277 | Total: Total Primary Knee Replacement |
| 1407-6 | cdcNHSN | 2.16.840.1.113883.6.277 | Total: Total Revision Knee Replacement |
| 1408-4 | cdcNHSN | 2.16.840.1.113883.6.277 | Total: Partial Revision Knee Replacement |
| 1409-2 | cdcNHSN | 2.16.840.1.113883.6.277 | Hemi: Partial Primary Knee Replacement |
| 1411-8 | cdcNHSN | 2.16.840.1.113883.6.277 | Hemi: Total Revision Knee Replacement |
| 1412-6 | cdcNHSN | 2.16.840.1.113883.6.277 | Hemi: Partial Revision Knee Replacement |

Table 217: NHSNSpinalFusionApproachCode

|  |  |  |  |
| --- | --- | --- | --- |
| Value Set: NHSNSpinalFusionApproachCode 2.16.840.1.113883.13.2  Code System: cdcNHSN 2.16.840.1.113883.6.277 or SNOMED CT 2.16.840.1.113883.6.96 | | | |
| Code | Code System | Code System OID | Print Name |
| 255549009 | SNOMED CT | 2.16.840.1.113883.6.96 | Anterior |
| 255551008 | SNOMED CT | 2.16.840.1.113883.6.96 | Posterior |
| 1205-4 | cdcNHSN | 2.16.840.1.113883.6.277 | anterior posterior |
| 118438002 | SNOMED CT | 2.16.840.1.113883.6.96 | Transoral Approach |

Figure 79: Code Translation Example—Procedure Report

<code code="2105-5"

displayName="Abdominal aortic aneurysm repair"

codeSystem="2.16.840.1.113883.6.277"

codeSystemName="cdcNHSN">

<translation code="34800"

codeSystem="2.16.840.1.113883.6.2"

displayName="ENDOVASCULAR REPAIR OF ABDOMINAL AORTIC ANEURYSM"

codeSystemName="ICD9CM"/>

</code>

Figure 80: Spinal Fusion Approach Example

<procedure classCode="PROC" moodCode="EVN">

<!-- C-CDA Procedure Activity Procedure template -->

<templateId root="2.16.840.1.113883.10.20.22.4.14" />

<!-- HAI Procedure Details Clinical Statement in a

Procedure Report (V2) template -->

<templateId root="2.16.840.1.113883.10.20.5.6.153.2" />

<id root="807007ba-c8f0-4842-9c3c-4a4e4c570849" />

...

<approachSiteCode

codeSystem="2.16.840.1.113883.6.277"

codeSystemName="cdcNHSN"

code="1205-4"

displayName="anterior posterior" />

<entryRelationship typeCode="COMP">

<observation>

<!-- HAI Spinal Fusion Level Observation templateId -->

<templateId root="2.16.840.1.113883.10.20.5.6.166" />

...

</observation>

</entryRelationship>

<entryRelationship typeCode="COMP">

<!-- Closure Technique Procedure -->

<procedure classCode="PROC" moodCode="EVN">

<!-- HAI Closure Technique Procedure templateId -->

<templateId root="2.16.840.1.113883.10.20.5.6.117" />

...

</procedure>

</entryRelationship>

...

</procedure>

Figure 81: Hip Replacement methodCode Example

<procedure>

...

<methodCode codeSystem="2.16.840.1.113883.6.277"

codeSystemName="cdcNHSN"

code="1413-4"

displayName="Total: Total Primary Hip Replacement"/>

<procedure/>

Figure 82: Knee Replacement methodCode Example

<procedure>

...

<methodCode codeSystem="2.16.840.1.113883.6.277"

codeSystemName="cdcNHSN"

code="1406-8"

displayName="Total: Total Primary Knee Replacement"/>

</procedure>

Procedure Details Clinical Statement in an Infection-Type Report

[procedure: identifier oid:2.16.840.1.113883.10.20.5.6.154 (closed)]

Table 218: Procedure Details Clinical Statement in an Infection-Type Report Contexts

| Contained By: | Contains: |
| --- | --- |
| [Post-Procedure Observation](#E_PostProcedure_Observation) (optional)  [Infection Details Section in an SSI Report (V2)](#S_Infection_Details_Section_in_an_SSI_V2) (required) |  |

This clinical statement records the detail required in an Infection-Type Report about a procedure.

Table 219: Procedure Details Clinical Statement in an Infection-Type Report Constraints Overview

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| XPath | Card. | Verb | Data Type | CONF# | Value |
| procedure (identifier: oid:2.16.840.1.113883.10.20.5.6.154) | | | | | |
| @classCode | 1..1 | SHALL |  | [21640](#C_21640) | 2.16.840.1.113883.5.6 (HL7ActClass) = PROC |
| @moodCode | 1..1 | SHALL |  | [21641](#C_21641) | 2.16.840.1.113883.5.1001 (ActMood) = EVN |
| templateId | 1..1 | SHALL |  | [28269](#C_28269) |  |
| @root | 1..1 | SHALL |  | [28270](#C_28270) | 2.16.840.1.113883.10.20.22.4.14 |
| templateId | 1..1 | SHALL |  | [21651](#C_21651) |  |
| @root | 1..1 | SHALL |  | [21652](#C_21652) | 2.16.840.1.113883.10.20.5.6.154 |
| id | 1..1 | SHALL |  | [21642](#C_21642) |  |
| code | 1..1 | SHALL |  | [21643](#C_21643) | 2.16.840.1.113883.13.17 (NHSNProcedureCategoryCode) |
| translation | 0..\* | MAY |  | [21645](#C_21645) |  |
| statusCode | 1..1 | SHALL |  | [21653](#C_21653) | 2.16.840.1.113883.11.20.9.22 (ProcedureAct statusCode) |
| effectiveTime | 1..1 | SHALL |  | [21647](#C_21647) |  |
| low | 1..1 | SHALL |  | [21648](#C_21648) |  |

1. Conforms to Procedure Activity Procedure template (identifier: oid:2.16.840.1.113883.10.20.22.4.14).
2. SHALL contain exactly one [1..1] @classCode="PROC" Procedure (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 STATIC) (CONF:21640).
3. SHALL contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 STATIC) (CONF:21641).
4. SHALL contain exactly one [1..1] templateId (CONF:28269) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.4.14" (CONF:28270).
5. SHALL contain exactly one [1..1] templateId (CONF:21651) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.6.154" (CONF:21652).
6. SHALL contain exactly one [1..1] id (CONF:21642).
7. SHALL contain exactly one [1..1] code (ValueSet: [NHSNProcedureCategoryCode](#NHSNProcedureCategoryCode) 2.16.840.1.113883.13.17 DYNAMIC) (CONF:21643).
   1. This code MAY contain zero or more [0..\*] translation (CONF:21645).
      1. This code/translation MAY be used for sending an ICD-9 code (CONF:21646).
8. SHALL contain exactly one [1..1] statusCode (ValueSet: [ProcedureAct statusCode](#ProcedureAct_statusCode) 2.16.840.1.113883.11.20.9.22 DYNAMIC) (CONF:21653).
9. SHALL contain exactly one [1..1] effectiveTime (CONF:21647).
   1. This effectiveTime SHALL contain exactly one [1..1] low (CONF:21648).

Figure 83: Code Translation Example—Infection-Type Report

<code code="2105-5"

displayName="Abdominal aortic aneurysm repair"

codeSystem="2.16.840.1.113883.6.277"

codeSystemName="cdcNHSN">

<translation code="34800"

codeSystem="2.16.840.1.113883.6.2"

displayName="ENDOVASCULAR REPAIR OF ABDOMINAL AORTIC ANEURYSM"

codeSystemName="ICD9CM"/>

</code>

Figure 84: Procedure Details Clinical Statement in an Infection-Type Report

<procedure classCode="PROC" moodCode="EVN">

<!-- C-CDA Procedure Activity Procedure template -->

<templateId root="2.16.840.1.113883.10.20.22.4.14" />

<!-- HAI Procedure Details CS in an infection-type report template -->

<templateId root="2.16.840.1.113883.10.20.5.6.154" />

<id root="2.16.840.1.113883.3.117.1.1.5.2.1.1.5" extension="21987654321" />

<code code="2108-9"

codeSystem="2.16.840.1.113883.6.277"

codeSystemName="cdcNHSN"

displayName="Appendix surgery" />

<statusCode code="completed" />

<effectiveTime>

<low value="20080805"/>

</effectiveTime>

</procedure>

Procedure Risk Factors Clinical Statement in a Procedure Report

[procedure: identifier oid:2.16.840.1.113883.10.20.5.6.156 (closed)]

Table 220: Procedure Risk Factors Clinical Statement in a Procedure Report Contexts

| Contained By: | Contains: |
| --- | --- |
| [Infection Risk Factors Section in a Procedure Report](#S_Infection_Risk_Factors_Section_in_a_P) (required) | [Endoscope Used Clinical Statement](#E_Endoscope_Used_Clinical_Statement)  [Wound Class Observation](#E_Wound_Class_Observation) |

This clinical statement records the detail required in a Procedure Report about the circumstances in which a procedure was performed.

The value of the id element must be globally unique and in general need not be an identifier used outside the document. Its function is to identify this procedure as being the same as the one documented in the Details Section of the same report.

Table 221: Procedure Risk Factors Clinical Statement in a Procedure Report Constraints Overview

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| XPath | Card. | Verb | Data Type | CONF# | Value |
| procedure (identifier: oid:2.16.840.1.113883.10.20.5.6.156) | | | | | |
| @classCode | 1..1 | SHALL |  | [21319](#C_21319) | 2.16.840.1.113883.5.6 (HL7ActClass) = PROC |
| @moodCode | 1..1 | SHALL |  | [21320](#C_21320) | 2.16.840.1.113883.5.1001 (ActMood) = EVN |
| templateId | 1..1 | SHALL |  | [21990](#C_21990) |  |
| @root | 1..1 | SHALL |  | [21991](#C_21991) | 2.16.840.1.113883.10.20.5.6.156 |
| id | 1..1 | SHALL |  | [21321](#C_21321) |  |
| entryRelationship | 1..1 | SHALL |  | [21323](#C_21323) |  |
| @typeCode | 1..1 | SHALL |  | [21324](#C_21324) | 2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = COMP |
| observation | 1..1 | SHALL |  | [21325](#C_21325) | [Wound Class Observation (identifier: oid:2.16.840.1.113883.10.20.5.6.174](#E_Wound_Class_Observation) |
| entryRelationship | 1..1 | SHALL |  | [21327](#C_21327) |  |
| @typeCode | 1..1 | SHALL |  | [21328](#C_21328) | 2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = COMP |
| procedure | 1..1 | SHALL |  | [21329](#C_21329) | [Endoscope Used Clinical Statement (identifier: oid:2.16.840.1.113883.10.20.5.6.128](#E_Endoscope_Used_Clinical_Statement) |

1. SHALL contain exactly one [1..1] @classCode="PROC" Procedure (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 STATIC) (CONF:21319).
2. SHALL contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 STATIC) (CONF:21320).
3. SHALL contain exactly one [1..1] templateId (CONF:21990) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.6.156" (CONF:21991).
4. SHALL contain exactly one [1..1] id (CONF:21321).
   1. The value of the id element SHALL be the same as  the value of the corresponding procedure/id element in the Details Section of the report (CONF:21322).
5. SHALL contain exactly one [1..1] entryRelationship (CONF:21323) such that it
   1. SHALL contain exactly one [1..1] @typeCode="COMP" Has component (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002 STATIC) (CONF:21324).
   2. SHALL contain exactly one [1..1] [Wound Class Observation](#E_Wound_Class_Observation) (identifier: oid:2.16.840.1.113883.10.20.5.6.174) (CONF:21325).
6. SHALL contain exactly one [1..1] entryRelationship (CONF:21327) such that it
   1. SHALL contain exactly one [1..1] @typeCode="COMP" Has component (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002 STATIC) (CONF:21328).
   2. SHALL contain exactly one [1..1] [Endoscope Used Clinical Statement](#E_Endoscope_Used_Clinical_Statement) (identifier: oid:2.16.840.1.113883.10.20.5.6.128) (CONF:21329).
7. If the procedure was an emergency, the procedure element SHALL contain a methodCode element where the value of @code is 373110003 Emergency procedure 2.16.840.1.113883.6.96 SNOMED CT STATIC (CONF:21331).

Figure 85: Procedure Risk Factors Clinical Statement in a Procedure Report

<procedure classCode="PROC" moodCode="EVN">

<templateId root="2.16.840.1.113883.10.20.5.6.156"/>

<id root="2.16.840.1.113883.3.117.1.1.5.2.1.1.4" extension="92"/>

<!-- Emergency procedure-->

<methodCode codeSystem="2.16.840.1.113883.6.96"

code="373110003" displayName="emergency"/>

<!-- Wound Class Observation -->

<entryRelationship typeCode="COMP">

<observation classCode="OBS" moodCode="EVN">

<templateId root="2.16.840.1.113883.10.20.5.6.174"/>

...

</entryRelationship>

<!-- Endoscope (not negated = was used) -->

<entryRelationship typeCode="COMP">

<!-- Endoscope Used Clinical Statement -->

<procedure classCode="PROC" moodCode="EVN" negationInd="false">

<templateId root="2.16.840.1.113883.10.20.5.6.128"/>

...

</procedure>

</entryRelationship>

</procedure>

Pus, Redness, or Increased Swelling Observation

[observation: identifier oid:2.16.840.1.113883.10.20.5.6.157 (closed)]

Table 222: Pus, Redness, or Increased Swelling Observation Contexts

| Contained By: | Contains: |
| --- | --- |
| [Infection Indicator Organizer](#E_Infection_Indicator_Organizer) (required) |  |

This observation records whether pus, redness, or increased swelling was observed. It is used in an Evidence of Infection (Dialysis) Report to record whether this was observed at a vascular access site.

If the infection indicator was present, set the value of @negationInd to false. If the infection indicator was not present, set the value of @negationInd to true.

Table 223: Pus, Redness, or Increased Swelling Observation Constraints Overview

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| XPath | Card. | Verb | Data Type | CONF# | Value |
| observation (identifier: oid:2.16.840.1.113883.10.20.5.6.157) | | | | | |
| @classCode | 1..1 | SHALL |  | [19900](#C_19900) | 2.16.840.1.113883.5.6 (HL7ActClass) = OBS |
| @moodCode | 1..1 | SHALL |  | [19901](#C_19901) | 2.16.840.1.113883.5.1001 (ActMood) = EVN |
| @negationInd | 1..1 | SHALL |  | [19902](#C_19902) |  |
| templateId | 1..1 | SHALL |  | [28271](#C_28271) |  |
| @root | 1..1 | SHALL |  | [28272](#C_28272) | 2.16.840.1.113883.10.20.22.4.4 |
| templateId | 1..1 | SHALL |  | [19905](#C_19905) |  |
| @root | 1..1 | SHALL |  | [19906](#C_19906) | 2.16.840.1.113883.10.20.5.6.157 |
| id | 1..1 | SHALL |  | [19907](#C_19907) |  |
| @nullFlavor | 1..1 | SHALL |  | [22788](#C_22788) | NA |
| code | 1..1 | SHALL |  | [19908](#C_19908) |  |
| @code | 1..1 | SHALL |  | [19909](#C_19909) | 2.16.840.1.113883.5.4 (ActCode) = ASSERTION |
| statusCode | 1..1 | SHALL |  | [19910](#C_19910) |  |
| @code | 1..1 | SHALL |  | [19911](#C_19911) | 2.16.840.1.113883.5.14 (ActStatus) = completed |
| value | 1..1 | SHALL | CD | [19912](#C_19912) |  |
| @code | 1..1 | SHALL |  | [19913](#C_19913) | 2.16.840.1.113883.6.277 (cdcNHSN) = 2305-1 |
| participant | 0..\* | MAY |  | [20937](#C_20937) |  |
| @typeCode | 1..1 | SHALL |  | [19915](#C_19915) | DEV |
| participantRole | 1..1 | SHALL |  | [19916](#C_19916) |  |
| playingDevice | 1..1 | SHALL |  | [19917](#C_19917) |  |
| code | 1..1 | SHALL |  | [19918](#C_19918) |  |
| @classCode | 1..1 | SHALL |  | [19921](#C_19921) | MANU |

1. Conforms to Problem Observation template (identifier: oid:2.16.840.1.113883.10.20.22.4.4).
2. SHALL contain exactly one [1..1] @classCode="OBS" Observation (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 STATIC) (CONF:19900).
3. SHALL contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 STATIC) (CONF:19901).
4. SHALL contain exactly one [1..1] @negationInd (CONF:19902).
5. SHALL contain exactly one [1..1] templateId (CONF:28271) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.4.4" (CONF:28272).
6. SHALL contain exactly one [1..1] templateId (CONF:19905) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.6.157" (CONF:19906).
7. SHALL contain exactly one [1..1] id (CONF:19907).
   1. This id SHALL contain exactly one [1..1] @nullFlavor="NA" (CONF:22788).
8. SHALL contain exactly one [1..1] code (CONF:19908).
   1. This code SHALL contain exactly one [1..1] @code="ASSERTION" Assertion (CodeSystem: ActCode 2.16.840.1.113883.5.4 STATIC) (CONF:19909).
9. SHALL contain exactly one [1..1] statusCode (CONF:19910).
   1. This statusCode SHALL contain exactly one [1..1] @code="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14 STATIC) (CONF:19911).
10. SHALL contain exactly one [1..1] value with @xsi:type="CD" (CONF:19912).
    1. This value SHALL contain exactly one [1..1] @code="2305-1" Pus, redness, or increased swelling (CodeSystem: cdcNHSN 2.16.840.1.113883.6.277 STATIC) (CONF:19913).
11. MAY contain zero or more [0..\*] participant (CONF:20937).

In an Evidence of Infection (Dialysis) Report, when this infection indicator is present, the following participant element is required by NHSN protocol to record the vascular access site at which the infection indicator was observed.

1. If the value of @negationInd is 'false', this observation SHALL contain one or more [1..\*] participant elements representing the access site which displayed this infection indicator (CONF:19914).
   1. SHALL contain exactly one [1..1] @typeCode="DEV" Device (CONF:19915).
   2. SHALL contain exactly one [1..1] participantRole (CONF:19916).
      1. This participantRole SHALL contain exactly one [1..1] playingDevice (CONF:19917).
         1. This playingDevice SHALL contain exactly one [1..1] code (CONF:19918).
            1. To record a vascular access site as a code, the value of @code SHALL be selected from ValueSet 2.16.840.1.114222.4.11.6042 NHSNVascularAccessSiteCode STATIC 20120808 (CONF:19919).
            2. To represent a site of vascular access  that is not listed in the NHSNVascularAccessSiteCode value set, set the value of @nullFlavor to OTH (other) (CONF:19920).
      2. This participantRole SHALL contain exactly one [1..1] @classCode="MANU" (CONF:19921).

Table 224: NHSNVascularAccessSiteCode

|  |  |  |  |
| --- | --- | --- | --- |
| Value Set: NHSNVascularAccessSiteCode 2.16.840.1.114222.4.11.6042  Code System: cdcNHSN 2.16.840.1.113883.6.277 | | | |
| Code | Code System | Code System OID | Print Name |
| 2323-4 | cdcNHSN | 2.16.840.1.113883.6.277 | Vascular site fistula |
| 2324-2 | cdcNHSN | 2.16.840.1.113883.6.277 | Vascular site graft |
| 2321-8 | cdcNHSN | 2.16.840.1.113883.6.277 | Site of non-tunneled central line, dialysis |
| 2322-6 | cdcNHSN | 2.16.840.1.113883.6.277 | Site of tunneled central line, dialysis |

Figure 86: Pus, Redness, or Increased Swelling Observation Example

<observation classCode="OBS" moodCode="EVN" negationInd="false">

<!-- C-CDA Problem Observation templateId -->

<templateId root="2.16.840.1.113883.10.20.22.4.4"/>

<!-- HAI Pus, Redness, or Increased Swelling Observation templateId-->

<templateId root="2.16.840.1.113883.10.20.5.6.157"/>

<id nullFlavor="NA"/>

<code code="ASSERTION"

codeSystem="2.16.840.1.113883.5.4"/>

<statusCode code="completed"/>

<value xsi:type="CD"

codeSystem="2.16.840.1.113883.6.277"

codeSystemName="cdcNHSN"

code="2305-1"

displayName="Pus, redness, or increased swelling"/>

<!-- If this infection indicator was observed, at which

vascular access site(s)? -->

<participant typeCode="DEV">

<participantRole classCode="MANU">

<playingDevice>

<code code="2321-8"

codeSystem="2.16.840.1.113883.6.277"

displayName="Vascular site fistula"/>

</playingDevice>

</participantRole>

</participant>

</observation>

Reason for Procedure Observation

[observation: identifier oid:2.16.840.1.113883.10.20.5.6.158 (closed)]

Table 225: Reason for Procedure Observation Contexts

| Contained By: | Contains: |
| --- | --- |
| [Procedure Details Clinical Statement in a CLIP Report](#E_Procedure_Details_CS_in_a_CLIP_Report) (required) | [Guidewire Used Clinical Statement](#E_Guidewire_Used_Clinical_Statement) |

This observation records the reason a procedure was performed. It is used in the CLIP Report to record the reason a central-line insertion procedure was performed.

Table 226: Reason for Procedure Observation Constraints Overview

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| XPath | Card. | Verb | Data Type | CONF# | Value |
| observation (identifier: oid:2.16.840.1.113883.10.20.5.6.158) | | | | | |
| @classCode | 1..1 | SHALL |  | [21589](#C_21589) | 2.16.840.1.113883.5.6 (HL7ActClass) = OBS |
| @moodCode | 1..1 | SHALL |  | [21590](#C_21590) | 2.16.840.1.113883.5.1001 (ActMood) = EVN |
| @negationInd | 1..1 | SHALL |  | [21591](#C_21591) | false |
| templateId | 1..1 | SHALL |  | [28273](#C_28273) |  |
| @root | 1..1 | SHALL |  | [28274](#C_28274) | 2.16.840.1.113883.10.20.22.4.19 |
| templateId | 1..1 | SHALL |  | [21593](#C_21593) |  |
| @root | 1..1 | SHALL |  | [21603](#C_21603) | 2.16.840.1.113883.10.20.5.6.158 |
| id | 1..1 | SHALL |  | [21594](#C_21594) |  |
| @nullFlavor | 1..1 | SHALL |  | [22789](#C_22789) | NA |
| code | 1..1 | SHALL |  | [21595](#C_21595) |  |
| @code | 1..1 | SHALL |  | [21596](#C_21596) | 2.16.840.1.113883.5.4 (ActCode) = ASSERTION |
| statusCode | 1..1 | SHALL |  | [21597](#C_21597) |  |
| @code | 1..1 | SHALL |  | [21598](#C_21598) | 2.16.840.1.113883.5.14 (ActStatus) = completed |
| value | 1..1 | SHALL |  | [21599](#C_21599) |  |
| entryRelationship | 0..1 | MAY |  | [23286](#C_23286) |  |
| @typeCode | 1..1 | SHALL |  | [23287](#C_23287) | 2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = RSON |
| @inversionInd | 1..1 | SHALL |  | [23288](#C_23288) | true |
| procedure | 1..1 | SHALL |  | [23289](#C_23289) | [Guidewire Used Clinical Statement (identifier: oid:2.16.840.1.113883.10.20.5.6.129](#E_Guidewire_Used_Clinical_Statement) |

1. Conforms to Indication template (identifier: oid:2.16.840.1.113883.10.20.22.4.19).
2. SHALL contain exactly one [1..1] @classCode="OBS" Observation (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 STATIC) (CONF:21589).
3. SHALL contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 STATIC) (CONF:21590).
4. SHALL contain exactly one [1..1] @negationInd="false" (CONF:21591).
5. SHALL contain exactly one [1..1] templateId (CONF:28273) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.4.19" (CONF:28274).
6. SHALL contain exactly one [1..1] templateId (CONF:21593) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.6.158" (CONF:21603).
7. SHALL contain exactly one [1..1] id (CONF:21594).
   1. This id SHALL contain exactly one [1..1] @nullFlavor="NA" (CONF:22789).
8. SHALL contain exactly one [1..1] code (CONF:21595).
   1. This code SHALL contain exactly one [1..1] @code="ASSERTION" Assertion (CodeSystem: ActCode 2.16.840.1.113883.5.4 STATIC) (CONF:21596).
9. SHALL contain exactly one [1..1] statusCode (CONF:21597).
   1. This statusCode SHALL contain exactly one [1..1] @code="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14 STATIC) (CONF:21598).
10. SHALL contain exactly one [1..1] value (CONF:21599).
    1. In a CLIP Report, to record the reason as a code, the value of @xsi:type SHALL be CD and the value of @code SHALL be selected from ValueSet 2.16.840.1.114222.4.11.3182 ReasonForInsertionCode STATIC 20090625. Or, to record the reason as text, the value of @xsi:type SHALL be ST and a text value SHALL be present (CONF:21600).
11. MAY contain zero or one [0..1] entryRelationship (CONF:23286).
    1. The entryRelationship, if present, SHALL contain exactly one [1..1] @typeCode="RSON" (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002) (CONF:23287).
    2. The entryRelationship, if present, SHALL contain exactly one [1..1] @inversionInd="true" (CONF:23288).
    3. The entryRelationship, if present, SHALL contain exactly one [1..1] [Guidewire Used Clinical Statement](#E_Guidewire_Used_Clinical_Statement) (identifier: oid:2.16.840.1.113883.10.20.5.6.129) (CONF:23289).
    4. In a CLIP Report, if the coded reason is [To replace] an existing central line where infection was suspected (5107-8), an entryRelationship element SHALL be present containing Guidewire Used Clinical Statement (CONF:23290).

Table 227: NHSNReasonForInsertionCode

|  |  |  |  |
| --- | --- | --- | --- |
| Value Set: NHSNReasonForInsertionCode 2.16.840.1.114222.4.11.3182  Code System: cdcNHSN 2.16.840.1.113883.6.277 | | | |
| Code | Code System | Code System OID | Print Name |
| 5105-2 | cdcNHSN | 2.16.840.1.113883.6.277 | [To address] A new indication for a central line. |
| 5106-0 | cdcNHSN | 2.16.840.1.113883.6.277 | [To replace] An existing, malfunctioning central line. |
| 5107-8 | cdcNHSN | 2.16.840.1.113883.6.277 | [To replace] An existing central line where infection was suspected. |

Figure 87: Reason for Procedure Observation Example

<entryRelationship typeCode="RSON">

<observation moodCode="EVN" classCode="OBS" negationInd="false">

<!-- C-CDA Indication templateId -->

<templateId root="2.16.840.1.113883.10.20.22.4.19"/>

<!-- HAI Reason for Procedure Observation templateId -->

<templateId root="2.16.840.1.113883.10.20.5.6.158"/>

<id nullFlavor="NA"/>

<code code="ASSERTION"

codeSystem="2.16.840.1.113883.5.4"

codeSystemName="HL7 Act Code"/>

<statusCode code="completed"/>

<value xsi:type="CD" codeSystem="2.16.840.1.113883.6.277"

codeSystemName="cdcNHSN"

code="5106-0"

displayName="[To replace] An existing, malfunctioning central line"/>

</observation>

...

<!-- Or, if the reason is [To replace] An existing central line where infection

was suspected:

<observation classCode="OBS" moodCode="EVN" negationInd="false">

<!-- C-CDA Indication templateId -->

<templateId root="2.16.840.1.113883.10.20.22.4.19"/>

<!-- HAI Reason for Procedure Observation templateId -->

<templateId root="2.16.840.1.113883.10.20.5.6.158"/>

<code codeSystem="2.16.840.1.113883.5.4"

code="ASSERTION"

codeSystemName="HL7 Act Code"/>

<statusCode code="completed"/>

<value xsi:type="CD" code="5107-8"

codeSystem="2.16.840.1.113883.6.277"

codeSystemName="cdcNHSN"

displayName="[To replace] An existing central line where infection

was suspected."/>

<entryRelationship typeCode="RSON" inversionInd="true">

<procedure classCode="PROC" moodCode="EVN" negationInd="false">

<templateId root="2.16.840.1.113883.10.20.5.6.15"/>

...

</procedure>

</entryRelationship>

</observation>

-->

Recorder Observation

[observation: identifier oid:2.16.840.1.113883.10.20.5.6.159 (closed)]

Table 228: Recorder Observation Contexts

| Contained By: | Contains: |
| --- | --- |
| [Procedure Details Clinical Statement in a CLIP Report](#E_Procedure_Details_CS_in_a_CLIP_Report) (required) |  |

This observation records whether the person who recorded the sequence of steps in a practice was also the performer of those steps. It is used in the Central-Line Insertion Practice Report.

If the recorder was the performer, set the value of @negationInd to false. If the recorder was not the performer (i.e., was an observer), set the value of @negationInd to true.

Table 229: Recorder Observation Constraints Overview

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| XPath | Card. | Verb | Data Type | CONF# | Value |
| observation (identifier: oid:2.16.840.1.113883.10.20.5.6.159) | | | | | |
| @classCode | 1..1 | SHALL |  | [21342](#C_21342) | 2.16.840.1.113883.5.6 (HL7ActClass) = OBS |
| @moodCode | 1..1 | SHALL |  | [21343](#C_21343) | 2.16.840.1.113883.5.1001 (ActMood) = EVN |
| @negationInd | 1..1 | SHALL |  | [21344](#C_21344) |  |
| templateId | 1..1 | SHALL |  | [21987](#C_21987) |  |
| @root | 1..1 | SHALL |  | [21988](#C_21988) | 2.16.840.1.113883.10.20.5.6.159 |
| id | 1..1 | SHALL |  | [21989](#C_21989) |  |
| @nullFlavor | 1..1 | SHALL |  | [22790](#C_22790) | NA |
| code | 1..1 | SHALL |  | [21345](#C_21345) |  |
| @code | 1..1 | SHALL |  | [21346](#C_21346) | 2.16.840.1.113883.5.4 (ActCode) = ASSERTION |
| statusCode | 1..1 | SHALL |  | [21347](#C_21347) |  |
| @code | 1..1 | SHALL |  | [21348](#C_21348) | 2.16.840.1.113883.5.14 (ActStatus) = completed |
| value | 1..1 | SHALL | CD | [21349](#C_21349) |  |
| @code | 1..1 | SHALL |  | [21350](#C_21350) | 2.16.840.1.113883.6.277 (cdcNHSN) = 3104-7 |

1. SHALL contain exactly one [1..1] @classCode="OBS" Observation (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 STATIC) (CONF:21342).
2. SHALL contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 STATIC) (CONF:21343).
3. SHALL contain exactly one [1..1] @negationInd (CONF:21344).
4. SHALL contain exactly one [1..1] templateId (CONF:21987) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.6.159" (CONF:21988).
5. SHALL contain exactly one [1..1] id (CONF:21989).
   1. This id SHALL contain exactly one [1..1] @nullFlavor="NA" (CONF:22790).
6. SHALL contain exactly one [1..1] code (CONF:21345).
   1. This code SHALL contain exactly one [1..1] @code="ASSERTION" Assertion (CodeSystem: ActCode 2.16.840.1.113883.5.4 STATIC) (CONF:21346).
7. SHALL contain exactly one [1..1] statusCode (CONF:21347).
   1. This statusCode SHALL contain exactly one [1..1] @code="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14 STATIC) (CONF:21348).
8. SHALL contain exactly one [1..1] value with @xsi:type="CD" (CONF:21349).
   1. This value SHALL contain exactly one [1..1] @code="3104-7" Recorder was performer (CodeSystem: cdcNHSN 2.16.840.1.113883.6.277 STATIC) (CONF:21350).

Figure 88: Recorder Observation Example

<observation moodCode="EVN" classCode="OBS" negationInd="false">

<templateId root="2.16.840.1.113883.10.20.5.6.159"/>

<id nullFlavor="NA"/>

<code code="ASSERTION"

codeSystem="2.16.840.1.113883.5.4"

codeSystemName="HL7 Act Code"/>

<statusCode code="completed"/>

<value xsi:type="CD"

codeSystem="2.16.840.1.113883.6.277"

codeSystemName="cdcNHSN"

code="3104-7"

displayName="Recorder was performer"/>

</observation>

Revision Associated with Prior Infection Observation

[observation: identifier oid:2.16.840.1.113883.10.20.5.6.204 (closed)]

Table 230: Revision Associated with Prior Infection Observation Contexts

| Contained By: | Contains: |
| --- | --- |
| [Procedure Details Clinical Statement in a Procedure Report (V2)](#Procedure_Details_Clinical_Statement_in) (optional) |  |

This template records whether or not a surgical procedure was performed as a result of a previous infection.  In the NHSN context, this observation only applies to arthroplasty procedures. It is based on the C-CDA Problem Observation template.

When the revision was associated with prior infection at the index joint, set the value of @negationInd to false. When the revision was not associated with prior infection at the index joint, set the value of @negationInd to true.

Table 231: Revision Associated with Prior Infection Observation Constraints Overview

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| XPath | Card. | Verb | Data Type | CONF# | Value |
| observation (identifier: oid:2.16.840.1.113883.10.20.5.6.204) | | | | | |
| @classCode | 1..1 | SHALL |  | [30225](#C_30225) | 2.16.840.1.113883.5.6 (HL7ActClass) = OBS |
| @moodCode | 1..1 | SHALL |  | [30226](#C_30226) | EVN |
| @negationInd | 1..1 | SHALL |  | [30227](#C_30227) |  |
| templateId | 1..1 | SHALL |  | [30305](#C_30305) |  |
| @root | 1..1 | SHALL |  | [30306](#C_30306) | 2.16.840.1.113883.10.20.22.4.4 |
| templateId | 1..1 | SHALL |  | [30229](#C_30229) |  |
| @root | 1..1 | SHALL |  | [30230](#C_30230) | 2.16.840.1.113883.10.20.5.6.204 |
| id | 1..1 | SHALL |  | [30231](#C_30231) |  |
| @nullFlavor | 1..1 | SHALL |  | [30232](#C_30232) | NA |
| code | 1..1 | SHALL |  | [30233](#C_30233) |  |
| @code | 1..1 | SHALL |  | [30234](#C_30234) | ASSERTION |
| @codeSystem | 1..1 | SHALL |  | [30235](#C_30235) | 2.16.840.1.113883.5.4 (ActCode) = 2.16.840.1.113883.5.4 |
| statusCode | 1..1 | SHALL |  | [30236](#C_30236) |  |
| @code | 1..1 | SHALL |  | [30237](#C_30237) | 2.16.840.1.113883.5.14 (ActStatus) = completed |
| value | 1..1 | SHALL | CD | [30238](#C_30238) |  |
| @code | 1..1 | SHALL |  | [30239](#C_30239) | 2.16.840.1.113883.6.277 (cdcNHSN) = 1239-3 |
| @codeSystem | 1..1 | SHALL |  | [30240](#C_30240) | 2.16.840.1.113883.6.277 (cdcNHSN) = 2.16.840.1.113883.6.277 |

1. Conforms to Problem Observation template (identifier: oid:2.16.840.1.113883.10.20.22.4.4).
2. SHALL contain exactly one [1..1] @classCode="OBS" (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6) (CONF:30225).
3. SHALL contain exactly one [1..1] @moodCode="EVN" (CONF:30226).
4. SHALL contain exactly one [1..1] @negationInd (CONF:30227).
   1. If the revision was associated with prior infection at the index joint, the value of @negationInd SHALL be false. If the revision was not associated with prior infection at the index joint, the value of @negationInd SHALL be true (CONF:30228).
5. SHALL contain exactly one [1..1] templateId (CONF:30305) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.4.4" (CONF:30306).
6. SHALL contain exactly one [1..1] templateId (CONF:30229) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.6.204" (CONF:30230).
7. SHALL contain exactly one [1..1] id (CONF:30231).
   1. This id SHALL contain exactly one [1..1] @nullFlavor="NA" (CONF:30232).
8. SHALL contain exactly one [1..1] code (CONF:30233).
   1. This code SHALL contain exactly one [1..1] @code="ASSERTION" (CONF:30234).
   2. This code SHALL contain exactly one [1..1] @codeSystem="2.16.840.1.113883.5.4" (CodeSystem: ActCode 2.16.840.1.113883.5.4) (CONF:30235).
9. SHALL contain exactly one [1..1] statusCode (CONF:30236).
   1. This statusCode SHALL contain exactly one [1..1] @code="completed" (CodeSystem: ActStatus 2.16.840.1.113883.5.14) (CONF:30237).
10. SHALL contain exactly one [1..1] value with @xsi:type="CD" (CONF:30238).
    1. This value SHALL contain exactly one [1..1] @code="1239-3" Revision associated with prior infection at index joint (CodeSystem: cdcNHSN 2.16.840.1.113883.6.277) (CONF:30239).
    2. This value SHALL contain exactly one [1..1] @codeSystem="2.16.840.1.113883.6.277" (CodeSystem: cdcNHSN 2.16.840.1.113883.6.277) (CONF:30240).

Figure 89: Revision Associated with Prior Infection Observation Example

<observation classCode="OBS" moodCode="EVN" negationInd="false">

<!--

If the revision was associated with prior infection at the index joint,

the value of @negationInd SHALL be false.

If the revision was not associated with prior infection at

the index joint, the value of @negationInd SHALL be true.

-->

<!-- C-CDA Problem Observation -->

<templateId root="2.16.840.1.113883.10.20.22.4.4" />

<!-- Revision Associated with Prior Infection Observation -->

<templateId root="2.16.840.1.113883.10.20.5.6.204" />

<id nullFlavor="NA" />

<code codeSystem="2.16.840.1.113883.5.4" code="ASSERTION" />

<statusCode code="completed" />

<value xsi:type="CD" code="1239-3"

displayName="Revision associated with prior infection at index joint"

codeSystem="2.16.840.1.113883.6.277"

codeSystemName="cdcNHSN" />

</observation>

Secondary Bloodstream Infection Observation

[observation: identifier oid:2.16.840.1.113883.10.20.5.6.160 (closed)]

Table 232: Secondary Bloodstream Infection Observation Contexts

| Contained By: | Contains: |
| --- | --- |
| [Infection-Type Observation](#E_InfectionType_Observation) (optional) |  |

This observation records whether a secondary bloodstream infection was present.

If a secondary bloodstream infection was present, set the value of observation/@negationInd to false. If a secondary bloodstream infection was not present, set the value of observation/@negationInd to true.

Table 233: Secondary Bloodstream Infection Observation Constraints Overview

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| XPath | Card. | Verb | Data Type | CONF# | Value |
| observation (identifier: oid:2.16.840.1.113883.10.20.5.6.160) | | | | | |
| @classCode | 1..1 | SHALL |  | [19840](#C_19840) | 2.16.840.1.113883.5.6 (HL7ActClass) = OBS |
| @moodCode | 1..1 | SHALL |  | [19841](#C_19841) | 2.16.840.1.113883.5.1001 (ActMood) = EVN |
| @negationInd | 1..1 | SHALL |  | [19842](#C_19842) |  |
| templateId | 1..1 | SHALL |  | [28275](#C_28275) |  |
| @root | 1..1 | SHALL |  | [28276](#C_28276) | 2.16.840.1.113883.10.20.22.4.4 |
| templateId | 1..1 | SHALL |  | [19851](#C_19851) |  |
| @root | 1..1 | SHALL |  | [19852](#C_19852) | 2.16.840.1.113883.10.20.5.6.160 |
| id | 1..1 | SHALL |  | [23363](#C_23363) |  |
| @nullFlavor | 1..1 | SHALL |  | [23364](#C_23364) | NA |
| code | 1..1 | SHALL |  | [19843](#C_19843) |  |
| @code | 1..1 | SHALL |  | [19844](#C_19844) | 2.16.840.1.113883.5.4 (ActCode) = ASSERTION |
| statusCode | 1..1 | SHALL |  | [19845](#C_19845) |  |
| @code | 1..1 | SHALL |  | [19846](#C_19846) | 2.16.840.1.113883.5.14 (ActStatus) = completed |
| value | 1..1 | SHALL | CD | [19847](#C_19847) |  |
| @code | 1..1 | SHALL |  | [19848](#C_19848) | 2.16.840.1.113883.6.277 (cdcNHSN) = 3111-2 |

1. Conforms to Problem Observation template (identifier: oid:2.16.840.1.113883.10.20.22.4.4).
2. SHALL contain exactly one [1..1] @classCode="OBS" Observation (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 STATIC) (CONF:19840).
3. SHALL contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 STATIC) (CONF:19841).
4. SHALL contain exactly one [1..1] @negationInd (CONF:19842).
5. SHALL contain exactly one [1..1] templateId (CONF:28275) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.4.4" (CONF:28276).
6. SHALL contain exactly one [1..1] templateId (CONF:19851) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.6.160" (CONF:19852).
7. SHALL contain exactly one [1..1] id (CONF:23363).
   1. This id SHALL contain exactly one [1..1] @nullFlavor="NA" (CONF:23364).
8. SHALL contain exactly one [1..1] code (CONF:19843).
   1. This code SHALL contain exactly one [1..1] @code="ASSERTION" Assertion (CodeSystem: ActCode 2.16.840.1.113883.5.4 STATIC) (CONF:19844).
9. SHALL contain exactly one [1..1] statusCode (CONF:19845).
   1. This statusCode SHALL contain exactly one [1..1] @code="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14 STATIC) (CONF:19846).
10. SHALL contain exactly one [1..1] value with @xsi:type="CD" (CONF:19847).
    1. This value SHALL contain exactly one [1..1] @code="3111-2" Secondary bloodstream infection (CodeSystem: cdcNHSN 2.16.840.1.113883.6.277 STATIC) (CONF:19848).

Figure 90: Secondary Bloodstream Infection Observation Example

<observation classCode="OBS" moodCode="EVN" negationInd="false">

<!-- C-CDA Problem Observation templateId -->

<templateId root="2.16.840.1.113883.10.20.22.4.4"/>

<!-- HAI Secondary Bloodstream Infection Observation templateId -->

<templateId root="2.16.840.1.113883.10.20.5.6.160"/>

<id nullFlavor="NA"/>

<code code="ASSERTION"

codeSystem="2.16.840.1.113883.5.4"/>

<statusCode code="completed"/>

<value

xsi:type="CD"

code="3111-2"

codeSystem="2.16.840.1.113883.6.277"

codeSystemName="cdcNHSN"

displayName="Secondary bloodstream infection"/>

</observation>

Significant Pathogens Observation

[observation: identifier oid:2.16.840.1.113883.10.20.5.6.161 (closed)]

Table 234: Significant Pathogens Observation Contexts

| Contained By: | Contains: |
| --- | --- |
| [Findings Section in a LIO Report](#S_Findings_Section_in_a_LIO_Report) (required) |  |

This observation records the finding of up to three of the most-significant pathogens.

Table 235: Significant Pathogens Observation Constraints Overview

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| XPath | Card. | Verb | Data Type | CONF# | Value |
| observation (identifier: oid:2.16.840.1.113883.10.20.5.6.161) | | | | | |
| @classCode | 1..1 | SHALL |  | [21351](#C_21351) | 2.16.840.1.113883.5.6 (HL7ActClass) = OBS |
| @moodCode | 1..1 | SHALL |  | [21352](#C_21352) | 2.16.840.1.113883.5.1001 (ActMood) = EVN |
| templateId | 1..1 | SHALL |  | [21984](#C_21984) |  |
| @root | 1..1 | SHALL |  | [21985](#C_21985) | 2.16.840.1.113883.10.20.5.6.161 |
| code | 1..1 | SHALL |  | [21353](#C_21353) |  |
| @code | 1..1 | SHALL |  | [21354](#C_21354) | 2.16.840.1.113883.6.1 (LOINC) = 41852-5 |
| statusCode | 1..1 | SHALL |  | [21355](#C_21355) |  |
| @code | 1..1 | SHALL |  | [21356](#C_21356) | 2.16.840.1.113883.5.14 (ActStatus) = completed |
| value | 1..3 | SHALL |  | [21357](#C_21357) | 2.16.840.1.114222.4.11.3194 (NHSNSignificantPathogenCode) |

1. SHALL contain exactly one [1..1] @classCode="OBS" Observation (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 STATIC) (CONF:21351).
2. SHALL contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 STATIC) (CONF:21352).
3. SHALL contain exactly one [1..1] templateId (CONF:21984) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.6.161" (CONF:21985).
4. SHALL contain exactly one [1..1] code (CONF:21353).
   1. This code SHALL contain exactly one [1..1] @code="41852-5" Microorganism Identified (CodeSystem: LOINC 2.16.840.1.113883.6.1 STATIC) (CONF:21354).
5. SHALL contain exactly one [1..1] statusCode (CONF:21355).
   1. This statusCode SHALL contain exactly one [1..1] @code="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14 STATIC) (CONF:21356).
6. SHALL contain at least one and not more than 3 value (ValueSet: [NHSNSignificantPathogenCode](#NHSNSignificantPathogenCode) 2.16.840.1.114222.4.11.3194 DYNAMIC) (CONF:21357).

Figure 91: Significant Pathogens Observation Example

<observation classCode="OBS" moodCode="EVN">

<templateId root="2.16.840.1.113883.10.20.5.6.161"/>

<code codeSystem="2.16.840.1.113883.6.1"

codeSystemName="LOINC"

code="41852-5"

displayName="Microorganism Identified"/>

<statusCode code="completed"/>

<value xsi:type="CD" codeSystem="2.16.840.1.113883.6.96"

codeSystemName="SNOMED CT" code="48321006"

displayName="Clostridium symbiosum (organism)"/>

</observation>

Skin Preparation Clinical Statement

[substanceAdministration: identifier oid:2.16.840.1.113883.10.20.5.6.162 (closed)]

Table 236: Skin Preparation Clinical Statement Contexts

| Contained By: | Contains: |
| --- | --- |
| [Skin-Preparation Solutions Applied Organizer](#E_SkinPreparation_Solutions_Applied_Org) (required) | [Contraindicated Observation](#E_Contraindicated_Observation) |

This observation records a skin-preparation solution. It is used in the Skin-Preparation Solutions Applied clinical statement in the Central-Line Insertion Practice Report.

If the preparation step included application of the solution specified, set the value of @negationInd to false. If the preparation step did not include application of the solution specified, set the value of @negationInd to true.

Table 237: Skin Preparation Clinical Statement Constraints Overview

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| XPath | Card. | Verb | Data Type | CONF# | Value |
| substanceAdministration (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.162) | | | | | |
| @classCode | 1..1 | SHALL |  | [21359](#C_21359) | 2.16.840.1.113883.5.6 (HL7ActClass) = SBADM |
| @moodCode | 1..1 | SHALL |  | [21360](#C_21360) | 2.16.840.1.113883.5.1001 (ActMood) = EVN |
| @negationInd | 1..1 | SHALL |  | [21361](#C_21361) |  |
| templateId | 1..1 | SHALL |  | [22118](#C_22118) |  |
| @root | 1..1 | SHALL |  | [22124](#C_22124) | 2.16.840.1.113883.10.20.5.6.162 |
| id | 1..1 | SHALL |  | [22119](#C_22119) |  |
| @nullFlavor | 1..1 | SHALL |  | [22785](#C_22785) | NA |
| statusCode | 1..1 | SHALL |  | [22120](#C_22120) |  |
| @code | 1..1 | SHALL |  | [28105](#C_28105) | 2.16.840.1.113883.5.14 (ActStatus) = completed |
| effectiveTime | 1..1 | SHALL | IVL\_TS | [22121](#C_22121) |  |
| low | 1..1 | SHALL |  | [22122](#C_22122) |  |
| @nullFlavor | 1..1 | SHALL |  | [22786](#C_22786) | NA |
| high | 1..1 | SHALL |  | [22123](#C_22123) |  |
| @nullFlavor | 1..1 | SHALL |  | [22787](#C_22787) | NA |
| consumable | 1..1 | SHALL |  | [21362](#C_21362) |  |
| manufacturedProduct | 1..1 | SHALL |  | [21363](#C_21363) |  |
| @classCode | 1..1 | SHALL |  | [21364](#C_21364) | 2.16.840.1.113883.5.110 (RoleClass) = MANU |
| templateId | 1..1 | SHALL |  | [28350](#C_28350) |  |
| @root | 1..1 | SHALL |  | [28351](#C_28351) | 2.16.840.1.113883.10.20.22.4.23 |
| manufacturedMaterial | 1..1 | SHALL |  | [21365](#C_21365) |  |
| @classCode | 1..1 | SHALL |  | [21366](#C_21366) | 2.16.840.1.113883.5.41 (EntityClass) = MMAT |
| code | 1..1 | SHALL |  | [21367](#C_21367) |  |
| entryRelationship | 0..1 | MAY |  | [23291](#C_23291) |  |
| @typeCode | 1..1 | SHALL |  | [23292](#C_23292) | 2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = RSON |
| observation | 1..1 | SHALL |  | [23293](#C_23293) | [Contraindicated Observation (R1) (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.118](#E_Contraindicated_Observation) |

1. Conforms to Medication Activity template (identifier: oid:2.16.840.1.113883.10.20.22.4.16).
2. SHALL contain exactly one [1..1] @classCode="SBADM" Substance administration (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 STATIC) (CONF:21359).
3. SHALL contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 STATIC) (CONF:21360).
4. SHALL contain exactly one [1..1] @negationInd (CONF:21361).
5. SHALL contain exactly one [1..1] templateId (CONF:22118) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.6.162" (CONF:22124).
6. SHALL contain exactly one [1..1] id (CONF:22119).
   1. This id SHALL contain exactly one [1..1] @nullFlavor="NA" (CONF:22785).
7. SHALL contain exactly one [1..1] statusCode (CONF:22120).
   1. This statusCode SHALL contain exactly one [1..1] @code="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14) (CONF:28105).
8. SHALL contain exactly one [1..1] effectiveTime (CONF:22121).
   1. This effectiveTime SHALL contain exactly one [1..1] low (CONF:22122).
      1. This low SHALL contain exactly one [1..1] @nullFlavor="NA" (CONF:22786).
   2. This effectiveTime SHALL contain exactly one [1..1] high (CONF:22123).
      1. This high SHALL contain exactly one [1..1] @nullFlavor="NA" (CONF:22787).
9. SHALL contain exactly one [1..1] consumable (CONF:21362).
   1. This consumable SHALL contain exactly one [1..1] manufacturedProduct (CONF:21363).
      1. This manufacturedProduct SHALL contain exactly one [1..1] @classCode="MANU" Manufactured product (CodeSystem: RoleClass 2.16.840.1.113883.5.110 STATIC) (CONF:21364).
      2. This manufacturedProduct SHALL contain exactly one [1..1] templateId (CONF:28350) such that it
         1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.4.23" (CONF:28351).
      3. This manufacturedProduct SHALL contain exactly one [1..1] manufacturedMaterial (CONF:21365).
         1. This manufacturedMaterial SHALL contain exactly one [1..1] @classCode="MMAT" Manufactured material (CodeSystem: EntityClass 2.16.840.1.113883.5.41 STATIC) (CONF:21366).
         2. This manufacturedMaterial SHALL contain exactly one [1..1] code (CONF:21367).
            1. To record a skin-preparation solution as a code, the value of @code SHALL be selected from ValueSet 2.16.840.1.114222.4.11.3183 NHSNSkinPreparationCode DYNAMIC. Or, to record a skin-preparation solution as text, the value of @nullFlavor SHALL be OTH and an originalText element SHALL be present recording the skin-preparation solution (CONF:21368).

When recording whether chlorhexidine gluconate was applied, if it was not applied, NHSN protocol records whether there was a contraindication to it.

1. MAY contain zero or one [0..1] entryRelationship (CONF:23291).
   1. The entryRelationship, if present, SHALL contain exactly one [1..1] @typeCode="RSON" (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002) (CONF:23292).
   2. The entryRelationship, if present, SHALL contain exactly one [1..1] [Contraindicated Observation](#E_Contraindicated_Observation) (identifier: oid:2.16.840.1.113883.10.20.5.6.118) (CONF:23293).
      1. When recording whether chlorhexidine gluconate was applied, if it was not applied, and was contraindicated, the value of @negationInd on the Contraindicated Observation SHALL be false. If it was not contraindicated, the value of @negationInd on the Contraindicated Observation SHALL be true.  If it is not known whether it was contraindicated, the value of @nullFlavor on the Contraindicated Observation SHALL be UNK.  For examples and further explanation, see the Contraindicated Observation template (CONF:23294).
   3. If chlorhexidine gluconate was NOT applied, SHALL contain an entryRelationship containing a Contraindicated Observation (CONF:23295).

Table 238: NHSNSkinPreparationCode

|  |  |  |  |
| --- | --- | --- | --- |
| Value Set: NHSNSkinPreparationCode 2.16.840.1.114222.4.11.3183  Code System: RxNorm 2.16.840.1.113883.6.88 | | | |
| Code | Code System | Code System OID | Print Name |
| 6052 | RxNorm | 2.16.840.1.113883.6.88 | Alcohol |
| 8611 | RxNorm | 2.16.840.1.113883.6.88 | Povidone iodine |
| 20791 | RxNorm | 2.16.840.1.113883.6.88 | Chlorhexidine gluconate |

Figure 92: Skin Preparation Clinical Statement Example

<substanceAdministration moodCode="EVN" classCode="SBADM"

negationInd="false">

<!-- C-CDA Medication Activity templateId -->

<templateId root="2.16.840.1.113883.10.20.22.4.16"/>

<!-- HAI Skin preparation Clinical Statement templateId -->

<templateId root="2.16.840.1.113883.10.20.5.6.162"/>

<id nullFlavor="NA"/>

<statusCode code="completed"/>

<effectiveTime xsi:type="IVL\_TS">

<low nullFlavor="NA" />

<high nullFlavor="NA" />

</effectiveTime>

<consumable>

<manufacturedProduct classCode="MANU">

<templateId root="2.16.840.1.113883.10.20.22.4.23" />

<manufacturedMaterial classCode="MMAT">

<code codeSystem="2.16.840.1.113883.6.88"

codeSystemName="RxNorm"

code="6052"

displayName="Alcohol"/>

</manufacturedMaterial>

</manufacturedProduct>

</consumable>

</substanceAdministration>

Skin-Preparation Solutions Applied Organizer

[organizer: identifier oid:2.16.840.1.113883.10.20.5.6.183 (closed)]

Table 239: Skin-Preparation Solutions Applied Organizer Contexts

| Contained By: | Contains: |
| --- | --- |
| [Central-Line Insertion Preparation Organizer](#E_CentralLine_Insertion_Preparation_Org) (required) | [Skin Preparation Clinical Statement](#E_Skin_Preparation_Clinical_Statement) |

This clinical statement reports what skin-preparation solutions were applied. It is one of the actions recorded in the first, preparatory step in the Central-line Insertion Practice sequence.

The Skin Preparation Clinical Statement provides the list of skin preparation solutions to record.

Table 240: Skin-Preparation Solutions Applied Organizer Constraints Overview

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| XPath | Card. | Verb | Data Type | CONF# | Value |
| organizer (identifier: oid:2.16.840.1.113883.10.20.5.6.183) | | | | | |
| @classCode | 1..1 | SHALL |  | [22252](#C_22252) | 2.16.840.1.113883.5.6 (HL7ActClass) = CLUSTER |
| @moodCode | 1..1 | SHALL |  | [22253](#C_22253) | 2.16.840.1.113883.5.1001 (ActMood) = EVN |
| templateId | 1..1 | SHALL |  | [22254](#C_22254) |  |
| @root | 1..1 | SHALL |  | [22255](#C_22255) | 2.16.840.1.113883.10.20.5.6.183 |
| statusCode | 1..1 | SHALL |  | [22257](#C_22257) |  |
| @code | 1..1 | SHALL |  | [22258](#C_22258) | 2.16.840.1.113883.5.14 (ActStatus) = completed |
| component | 1..\* | SHALL |  | [22260](#C_22260) |  |
| substanceAdministration | 1..1 | SHALL |  | [22261](#C_22261) | [Skin Preparation Clinical Statement (identifier: oid:2.16.840.1.113883.10.20.5.6.162](#E_Skin_Preparation_Clinical_Statement) |

1. SHALL contain exactly one [1..1] @classCode="CLUSTER" Cluster (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 STATIC) (CONF:22252).
2. SHALL contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 STATIC) (CONF:22253).
3. SHALL contain exactly one [1..1] templateId (CONF:22254) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.6.183" (CONF:22255).
4. SHALL contain exactly one [1..1] statusCode (CONF:22257).
   1. This statusCode SHALL contain exactly one [1..1] @code="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14 STATIC) (CONF:22258).
5. SHALL contain at least one [1..\*] component (CONF:22260).
   1. Such components SHALL contain exactly one [1..1] [Skin Preparation Clinical Statement](#E_Skin_Preparation_Clinical_Statement) (identifier: oid:2.16.840.1.113883.10.20.5.6.162) (CONF:22261).
   2. A component containing a Skin Preparation Clinical Statement SHALL be present for each skin-preparation solution required by the NHSN protocol. One additional such component element MAY be present recording an uncoded (text) skin-preparation solution (CONF:22262).

Figure 93: Skin-Preparation Solutions Applied Organizer

<organizer moodCode="EVN" classCode="CLUSTER">

<templateId root="2.16.840.1.113883.10.20.5.6.183"/>

<statusCode code="completed"/>

<component>

<substanceAdministration>

<!-- C-CDA Medication Activity templateId -->

<templateId root="2.16.840.1.113883.10.20.22.4.16"/>

<!-- HAI Skin Preparation Clinical Statement templateId -->

<templateId root="2.16.840.1.113883.10.20.5.6.162"/>

...

</substanceAdministration>

</component>

...

</organizer>

Solutions Dried Observation

[observation: identifier oid:2.16.840.1.113883.10.20.5.6.163 (closed)]

Table 241: Solutions Dried Observation Contexts

| Contained By: | Contains: |
| --- | --- |
| [Central-Line Insertion Practice Clinical Statement](#E_CentralLine_Insertion_Practice_Clinic) (required) |  |

This clinical statement represents the second step in the central-line insertion practice sequence: whether the skin-preparation solution(s) applied had dried before the next step, which is the central-line insertion itself.

If the step was completed at this place in the sequence, set the value of @negationInd to false. If this step was not completed at this place in the sequence, set the value of @negationInd to true.

Table 242: Solutions Dried Observation Constraints Overview

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| XPath | Card. | Verb | Data Type | CONF# | Value |
| observation (identifier: oid:2.16.840.1.113883.10.20.5.6.163) | | | | | |
| @classCode | 1..1 | SHALL |  | [20938](#C_20938) | 2.16.840.1.113883.5.6 (HL7ActClass) = OBS |
| @moodCode | 1..1 | SHALL |  | [20939](#C_20939) | 2.16.840.1.113883.5.1001 (ActMood) = EVN |
| @negationInd | 1..1 | SHALL |  | [20940](#C_20940) |  |
| templateId | 1..1 | SHALL |  | [28277](#C_28277) |  |
| @root | 1..1 | SHALL |  | [28278](#C_28278) | 2.16.840.1.113883.10.20.22.4.4 |
| templateId | 1..1 | SHALL |  | [20943](#C_20943) |  |
| @root | 1..1 | SHALL |  | [20944](#C_20943) | 2.16.840.1.113883.10.20.5.6.163 |
| id | 1..1 | SHALL |  | [20945](#C_20945) |  |
| @nullFlavor | 1..1 | SHALL |  | [22783](#C_22783) | NA |
| code | 1..1 | SHALL |  | [20946](#C_20946) |  |
| @code | 1..1 | SHALL | CS | [20947](#C_20947) | 2.16.840.1.113883.5.4 (ActCode) = ASSERTION |
| statusCode | 1..1 | SHALL |  | [20948](#C_20948) |  |
| @code | 1..1 | SHALL |  | [20949](#C_20949) | 2.16.840.1.113883.5.14 (ActStatus) = completed |
| value | 1..1 | SHALL | CD | [20950](#C_20950) |  |
| @code | 1..1 | SHALL |  | [20952](#C_20952) | 2.16.840.1.113883.6.277 (cdcNHSN) = 3114-6 |

1. Conforms to Problem Observation template (identifier: oid:2.16.840.1.113883.10.20.22.4.4).
2. SHALL contain exactly one [1..1] @classCode="OBS" Observation (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 STATIC) (CONF:20938).
3. SHALL contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 STATIC) (CONF:20939).
4. SHALL contain exactly one [1..1] @negationInd (CONF:20940).
5. SHALL contain exactly one [1..1] templateId (CONF:28277) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.4.4" (CONF:28278).
6. SHALL contain exactly one [1..1] templateId (CONF:20943) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.6.163" (CONF:20944).
7. SHALL contain exactly one [1..1] id (CONF:20945).
   1. This id SHALL contain exactly one [1..1] @nullFlavor="NA" (CONF:22783).
8. SHALL contain exactly one [1..1] code (CONF:20946).
   1. This code SHALL contain exactly one [1..1] @code="ASSERTION" Assertion (CodeSystem: ActCode 2.16.840.1.113883.5.4 STATIC) (CONF:20947).
9. SHALL contain exactly one [1..1] statusCode (CONF:20948).
   1. This statusCode SHALL contain exactly one [1..1] @code="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14 STATIC) (CONF:20949).
10. SHALL contain exactly one [1..1] value with @xsi:type="CD" (CONF:20950).
    1. This value SHALL contain exactly one [1..1] @code="3114-6" Solution(s) had dried (CodeSystem: cdcNHSN 2.16.840.1.113883.6.277 STATIC) (CONF:20952).

Figure 94: Solutions Dried Observation Example

<sequenceNumber value="2"/>

<observation moodCode="EVN" classCode="OBS" negationInd="false">

<!-- C-CDA Problem Observation templateId -->

<templateId root="2.16.840.1.113883.10.20.22.4.4"/>

<!-- HAI Solutions Dried Observation -->

<templateId root="2.16.840.1.113883.10.20.5.6.163"/>

<id nullFlavor="NA" />

<code code="ASSERTION"

codeSystem="2.16.840.1.113883.5.4"

codeSystemName="HL7 Act Code"/>

<statusCode code="completed"/>

<value xsi:type="CD"

code="3114-6"

codeSystem="2.16.840.1.113883.6.277"

codeSystemName="cdcNHSN"

displayName="Solution(s) had dried"/>

</observation>

Specimen Collection Encounter (ARO)

[encounter: identifier oid:2.16.840.1.113883.10.20.5.6.187 (closed)]

Table 243: Specimen Collection Encounter (ARO) Contexts

| Contained By: | Contains: |
| --- | --- |
| [Specimen Collection Procedure (ARO)](#E_Specimen_Collection_Procedure_ARO) (required) |  |

The Specimen Collection Encounter (ARO) records the in-facility location where a specimen was collected.

This template conforms to the C-CDA Encounter Activities template. That template requires an id; in the NHSN ARO Report, the id of the encounter is not reported, therefore a nullFlavor is used for the required id.

The participant element represents the in-facility location where the specimen was collected. The value of participantRole/id/@root will be the same as the healthCareFacility in the encompassingEncounter, but here it is scoping the in-facility location where the specimen was collected, represented in the @extension.

Table 244: Specimen Collection Encounter (ARO) Constraints Overview

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| XPath | Card. | Verb | Data Type | CONF# | Value |
| encounter (identifier: oid:2.16.840.1.113883.10.20.5.6.187) | | | | | |
| @classCode | 1..1 | SHALL |  | [22649](#C_22649) | 2.16.840.1.113883.5.6 (HL7ActClass) = ENC |
| @moodCode | 1..1 | SHALL |  | [22650](#C_22650) | 2.16.840.1.113883.5.1001 (ActMood) = EVN |
| templateId | 1..1 | SHALL |  | [28279](#C_28279) |  |
| @root | 1..1 | SHALL |  | [28280](#C_28280) | 2.16.840.1.113883.10.20.22.4.49 |
| templateId | 1..1 | SHALL |  | [22651](#C_22651) |  |
| @root | 1..1 | SHALL |  | [22652](#C_22652) | 2.16.840.1.113883.10.20.5.6.187 |
| id | 1..1 | SHALL |  | [22653](#C_22653) |  |
| @nullFlavor | 1..1 | SHALL |  | [22654](#C_22654) | 2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = NA |
| effectiveTime | 1..1 | SHALL |  | [22655](#C_22655) |  |
| @nullFlavor | 1..1 | SHALL |  | [22656](#C_22656) | NA |
| participant | 1..1 | SHALL |  | [22657](#C_22657) |  |
| @typeCode | 1..1 | SHALL |  | [22658](#C_22658) | 2.16.840.1.113883.5.90 (HL7ParticipationType) = LOC |
| participantRole | 1..1 | SHALL |  | [22659](#C_22659) |  |
| @classCode | 1..1 | SHALL |  | [22660](#C_22660) | 2.16.840.1.113883.5.110 (RoleClass) = SDLOC |
| id | 1..1 | SHALL |  | [22661](#C_22661) |  |
| @root | 1..1 | SHALL |  | [22662](#C_22662) |  |
| @extension | 1..1 | SHALL |  | [22663](#C_22663) |  |
| playingEntity | 1..1 | SHALL |  | [22664](#C_22664) |  |
| @classCode | 1..1 | SHALL |  | [22665](#C_22665) | 2.16.840.1.113883.5.41 (EntityClass) = PLC |
| code | 1..1 | SHALL |  | [22666](#C_22666) | 2.16.840.1.113883.13.19 (NHSNHealthcareServiceLocationCode) |

1. Conforms to Encounter Activities template (identifier: oid:2.16.840.1.113883.10.20.22.4.49).
2. SHALL contain exactly one [1..1] @classCode="ENC" Encounter (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 STATIC) (CONF:22649).
3. SHALL contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 STATIC) (CONF:22650).
4. SHALL contain exactly one [1..1] templateId (CONF:28279) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.4.49" (CONF:28280).
5. SHALL contain exactly one [1..1] templateId (CONF:22651) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.6.187" (CONF:22652).
6. SHALL contain exactly one [1..1] id (CONF:22653).
   1. This id SHALL contain exactly one [1..1] @nullFlavor="NA" (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002) (CONF:22654).
7. SHALL contain exactly one [1..1] effectiveTime (CONF:22655).
   1. This effectiveTime SHALL contain exactly one [1..1] @nullFlavor="NA" (CONF:22656).
8. SHALL contain exactly one [1..1] participant (CONF:22657).
   1. This participant SHALL contain exactly one [1..1] @typeCode="LOC" Location (CodeSystem: HL7ParticipationType 2.16.840.1.113883.5.90 STATIC) (CONF:22658).
   2. This participant SHALL contain exactly one [1..1] participantRole (CONF:22659).
      1. This participantRole SHALL contain exactly one [1..1] @classCode="SDLOC" Service delivery location (CodeSystem: RoleClass 2.16.840.1.113883.5.110 STATIC) (CONF:22660).
      2. This participantRole SHALL contain exactly one [1..1] id (CONF:22661).
         1. This id SHALL contain exactly one [1..1] @root (CONF:22662).
         2. This id SHALL contain exactly one [1..1] @extension (CONF:22663).
      3. This participantRole SHALL contain exactly one [1..1] playingEntity (CONF:22664).
         1. This playingEntity SHALL contain exactly one [1..1] @classCode="PLC" Place (CodeSystem: EntityClass 2.16.840.1.113883.5.41 STATIC) (CONF:22665).
         2. This playingEntity SHALL contain exactly one [1..1] code, which SHALL be selected from ValueSet [NHSNHealthcareServiceLocationCode](#NHSNHealthcareServiceLocationCode) 2.16.840.1.113883.13.19 DYNAMIC (CONF:22666).

Figure 95: Specimen Collection Encounter (ARO) Example

<encounter classCode="ENC" moodCode="EVN">

<!--Specimen Collection Encounter (ARO) -->

<templateId root="2.16.840.1.113883.10.20.5.6.187"/>

<!-- Conforms to Consolidated CDA Encounter Activities template -->

<templateId root="2.16.840.1.113883.10.20.22.4.49"/>

<id nullFlavor="NA"/>

<effectiveTime nullFlavor="NA"/>

<!-- The in-facility location where the specimen was collected -->

<participant typeCode="LOC">

<participantRole classCode="SDLOC">

<id root="2.16.840.1.113883.3.117.1.1.5.1.1" extension="9W" />

<playingEntity classCode="PLC">

<code codeSystem="2.16.840.1.113883.6.259"

codeSystemName="HL7 Healthcare Service Location Code"

code="1029-8"

displayName="Medical/Surgical Critical Care" />

</playingEntity>

</participantRole>

</participant>

</encounter>

Specimen Collection Encounter (LIO)

[encounter: identifier oid:2.16.840.1.113883.10.20.5.6.164 (closed)]

Table 245: Specimen Collection Encounter (LIO) Contexts

| Contained By: | Contains: |
| --- | --- |
| [Specimen Collection Procedure (LIO)](#E_Specimen_Collection_Procedure_LIO) (required) |  |

The Specimen Collection Encounter (LIO) records the facility location where a specimen was collected and, if the patient was an inpatient, the date the patient was admitted or transferred to that in-facility location.

This template conforms to the C-CDA Encounter Activities template. That template requires an id; in the NHSN LIO Report, the id of the encounter is not reported, therefore a nullFlavor is used for the required id.

The participant element represents the facility location where the specimen was collected. The value of participantRole/id/@root will be the same as the healthCareFacility in the encompassingEncounter, but here it is scoping the facility location where the specimen was collected, represented in the @extension.

Table 246: Specimen Collection Encounter (LIO) Constraints Overview

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| XPath | Card. | Verb | Data Type | CONF# | Value |
| encounter (identifier: oid:2.16.840.1.113883.10.20.5.6.164) | | | | | |
| @classCode | 1..1 | SHALL |  | [21563](#C_21563) | 2.16.840.1.113883.5.6 (HL7ActClass) = ENC |
| @moodCode | 1..1 | SHALL |  | [21564](#C_21564) | 2.16.840.1.113883.5.1001 (ActMood) = EVN |
| templateId | 1..1 | SHALL |  | [28281](#C_28281) |  |
| @root | 1..1 | SHALL |  | [28282](#C_28282) | 2.16.840.1.113883.10.20.22.4.49 |
| templateId | 1..1 | SHALL |  | [21567](#C_21567) |  |
| @root | 1..1 | SHALL |  | [21568](#C_21568) | 2.16.840.1.113883.10.20.5.6.164 |
| id | 1..1 | SHALL |  | [21569](#C_21569) |  |
| @nullFlavor | 1..1 | SHALL |  | [21583](#C_21583) | NA |
| effectiveTime | 1..1 | SHALL |  | [21584](#C_21584) |  |
| participant | 1..1 | SHALL |  | [21571](#C_21571) |  |
| @typeCode | 1..1 | SHALL |  | [21572](#C_21572) | 2.16.840.1.113883.5.90 (HL7ParticipationType) = LOC |
| participantRole | 1..1 | SHALL |  | [21573](#C_21573) |  |
| @classCode | 1..1 | SHALL |  | [21574](#C_21574) | 2.16.840.1.113883.5.110 (RoleClass) = SDLOC |
| id | 1..1 | SHALL |  | [21575](#C_21575) |  |
| @root | 1..1 | SHALL |  | [21576](#C_21576) |  |
| @extension | 1..1 | SHALL |  | [21577](#C_21577) |  |
| playingEntity | 1..1 | SHALL |  | [21578](#C_21578) |  |
| @classCode | 1..1 | SHALL |  | [21579](#C_21579) | 2.16.840.1.113883.5.41 (EntityClass) = PLC |
| code | 1..1 | SHALL |  | [21580](#C_21580) | 2.16.840.1.113883.13.19 (NHSNHealthcareServiceLocationCode) |

1. Conforms to Encounter Activities template (identifier: oid:2.16.840.1.113883.10.20.22.4.49).
2. SHALL contain exactly one [1..1] @classCode="ENC" Encounter (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 STATIC) (CONF:21563).
3. SHALL contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 STATIC) (CONF:21564).
4. SHALL contain exactly one [1..1] templateId (CONF:28281) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.4.49" (CONF:28282).
5. SHALL contain exactly one [1..1] templateId (CONF:21567) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.6.164" (CONF:21568).
6. SHALL contain exactly one [1..1] id (CONF:21569).
   1. This id SHALL contain exactly one [1..1] @nullFlavor="NA" (CONF:21583).
7. SHALL contain exactly one [1..1] effectiveTime (CONF:21584).
   1. If the patient was an inpatient, an effectiveTime/low element SHALL be present representing the date the patient was admitted or transferred to that location (CONF:21585).
   2. If the patient was not an inpatient and the encounter DataTime is not known or not available, an appropriate nullFlavor SHALL be used on effectiveTime element (CONF:21604).
8. SHALL contain exactly one [1..1] participant (CONF:21571).
   1. This participant SHALL contain exactly one [1..1] @typeCode="LOC" Location (CodeSystem: HL7ParticipationType 2.16.840.1.113883.5.90 STATIC) (CONF:21572).
   2. This participant SHALL contain exactly one [1..1] participantRole (CONF:21573).
      1. This participantRole SHALL contain exactly one [1..1] @classCode="SDLOC" Service delivery location (CodeSystem: RoleClass 2.16.840.1.113883.5.110 STATIC) (CONF:21574).
      2. This participantRole SHALL contain exactly one [1..1] id (CONF:21575).
         1. This id SHALL contain exactly one [1..1] @root (CONF:21576).
         2. This id SHALL contain exactly one [1..1] @extension (CONF:21577).
      3. This participantRole SHALL contain exactly one [1..1] playingEntity (CONF:21578).
         1. This playingEntity SHALL contain exactly one [1..1] @classCode="PLC" Place (CodeSystem: EntityClass 2.16.840.1.113883.5.41 STATIC) (CONF:21579).
         2. This playingEntity SHALL contain exactly one [1..1] code, which SHALL be selected from ValueSet [NHSNHealthcareServiceLocationCode](#NHSNHealthcareServiceLocationCode) 2.16.840.1.113883.13.19 DYNAMIC (CONF:21580).

Figure 96: Specimen Collection Location and Admission Date (LIO) Example

<!-- Location and admission date ?

<encounter classCode="ENC" moodCode="EVN">

<!-- C-CDA Encounter Activities templateId -->

<templateId root="2.16.840.1.113883.10.20.22.4.49" />

<!-- HAI Specimen Collection Encounter (LIO) -->

<templateId root="2.16.840.1.113883.10.20.5.6.164" />

<id nullFlavor="NA" />

<!-- If person was an inpatient at the in-facility location

where the specimen was taken:

date admitted/transferred there -->

<effectiveTime>

<low value="20090117" />

</effectiveTime>

<!-- The in-facility location where the specimen was taken -->

<participant typeCode="LOC">

<templateId root="2.16.840.1.113883.10.20.22.4.32" />

<!-- C-CDA -->

<participantRole classCode="SDLOC">

<id root="2.16.840.1.113883.3.117.1.1.5.1.1" extension="9W" />

<playingEntity classCode="PLC">

<code codeSystem="2.16.840.1.113883.6.259"

codeSystemName="HL7 Healthcare Service Location Code"

code="1029-8"

displayName="Medical/Surgical Critical Care" />

</playingEntity>

</participantRole>

</participant>

</encounter>

Specimen Collection Procedure (ARO)

[procedure: identifier oid:2.16.840.1.113883.10.20.5.6.188 (closed)]

Table 247: Specimen Collection Procedure (ARO) Contexts

| Contained By: | Contains: |
| --- | --- |
| [Findings Section in an ARO Report](#S_Findings_Section_in_an_ARO_Report) (required) | [Isolate Susceptibility Tests Organizer](#Isolate_Susceptibility_Tests_Organizer_)  [Specimen Collection Encounter (ARO)](#Specimen_Collection_Encounter_ARO) |

The Specimen Collection Procedure (ARO) records the date a specimen was collected and the type of specimen. It includes a Specimen Collection Encounter (ARO), which records the in-facility location where the specimen was collected. The template is derived from the Specimen Collection Procedure template from Public Health Case Reports.

In the ARO Report, a collection procedure code is not recorded. The effectiveTime element records the date when the specimen was collected. The participant element records the specimen type.

Table 248: Specimen Collection Procedure (ARO) Constraints Overview

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| XPath | Card. | Verb | Data Type | CONF# | Value |
| procedure (identifier: oid:2.16.840.1.113883.10.20.5.6.188) | | | | | |
| @classCode | 1..1 | SHALL |  | [22668](#C_22668) | 2.16.840.1.113883.5.6 (HL7ActClass) = PROC |
| @moodCode | 1..1 | SHALL |  | [22669](#C_22669) | 2.16.840.1.113883.5.1001 (ActMood) = EVN |
| templateId | 1..1 | SHALL |  | [22670](#C_22670) |  |
| @root | 1..1 | SHALL |  | [22671](#C_22671) | 2.16.840.1.113883.10.20.5.6.188 |
| effectiveTime | 1..1 | SHALL |  | [22672](#C_22672) |  |
| @value | 1..1 | SHALL |  | [22673](#C_22673) |  |
| specimen | 1..1 | SHALL |  | [27160](#C_27160) |  |
| specimenRole | 1..1 | SHALL |  | [27161](#C_27161) |  |
| specimenPlayingEntity | 1..1 | SHALL |  | [27162](#C_27162) |  |
| code | 1..1 | SHALL |  | [27163](#C_27163) | 2.16.840.1.114222.4.11.3249 (NHSNSpecimenTypeCode) |
| entryRelationship | 1..1 | SHALL |  | [22681](#C_22681) |  |
| @typeCode | 1..1 | SHALL |  | [22682](#C_22682) | 2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = COMP |
| @inversionInd | 1..1 | SHALL |  | [22683](#C_22683) | true |
| encounter | 1..1 | SHALL |  | [22684](#C_22684) | [Specimen Collection Encounter (ARO) (identifier: oid:2.16.840.1.113883.10.20.5.6.187](#Specimen_Collection_Encounter_ARO) |
| entryRelationship | 1..\* | SHALL |  | [27164](#C_27164) |  |
| @typeCode | 1..1 | SHALL |  | [27165](#C_27165) | 2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = COMP |
| @inversionInd | 1..1 | SHALL |  | [27432](#C_27432) | true |
| organizer | 1..1 | SHALL |  | [27166](#C_27166) | [Isolate Susceptibility Tests Organizer (identifier: oid:2.16.840.1.113883.10.20.5.6.201](#Isolate_Susceptibility_Tests_Organizer_) |

1. SHALL contain exactly one [1..1] @classCode="PROC" Procedure (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 STATIC) (CONF:22668).
2. SHALL contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 STATIC) (CONF:22669).
3. SHALL contain exactly one [1..1] templateId (CONF:22670) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.6.188" (CONF:22671).
4. SHALL contain exactly one [1..1] effectiveTime (CONF:22672).
   1. This effectiveTime SHALL contain exactly one [1..1] @value (CONF:22673).
5. SHALL contain exactly one [1..1] specimen (CONF:27160).
   1. This specimen SHALL contain exactly one [1..1] specimenRole (CONF:27161).
      1. This specimenRole SHALL contain exactly one [1..1] specimenPlayingEntity (CONF:27162).
         1. This specimenPlayingEntity SHALL contain exactly one [1..1] code, which SHALL be selected from ValueSet [NHSNSpecimenTypeCode](#NHSNSpecimenTypeCode) 2.16.840.1.114222.4.11.3249 (CONF:27163).
6. SHALL contain exactly one [1..1] entryRelationship (CONF:22681) such that it
   1. SHALL contain exactly one [1..1] @typeCode="COMP" Has component (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002 STATIC) (CONF:22682).
   2. SHALL contain exactly one [1..1] @inversionInd="true" (CONF:22683).
   3. SHALL contain exactly one [1..1] [Specimen Collection Encounter (ARO)](#Specimen_Collection_Encounter_ARO) (identifier: oid:2.16.840.1.113883.10.20.5.6.187) (CONF:22684).
7. SHALL contain at least one [1..\*] entryRelationship (CONF:27164) such that it
   1. SHALL contain exactly one [1..1] @typeCode="COMP" (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002) (CONF:27165).
   2. SHALL contain exactly one [1..1] @inversionInd="true" (CONF:27432).
   3. SHALL contain exactly one [1..1] [Isolate Susceptibility Tests Organizer](#Isolate_Susceptibility_Tests_Organizer_) (identifier: oid:2.16.840.1.113883.10.20.5.6.201) (CONF:27166).

Table 249: NHSNSpecimenTypeCode

|  |  |  |  |
| --- | --- | --- | --- |
| Value Set: NHSNSpecimenTypeCode 2.16.840.1.114222.4.11.3249  Code System: SNOMED CT 2.16.840.1.113883.6.96    The full table is shown in the hai\_voc.xls file provided with this package. | | | |
| Code | Code System | Code System OID | Print Name |
| 110893002 | SNOMED CT | 2.16.840.1.113883.6.96 | Cutaneous cytologic material |
| 110894008 | SNOMED CT | 2.16.840.1.113883.6.96 | Mammary cytologic material |
| 110896005 | SNOMED CT | 2.16.840.1.113883.6.96 | Subcutaneous cytologic material |
| 110903005 | SNOMED CT | 2.16.840.1.113883.6.96 | Nasal cytologic material |
| 110926003 | SNOMED CT | 2.16.840.1.113883.6.96 | Gallbladder cytologic material |
| 110931001 | SNOMED CT | 2.16.840.1.113883.6.96 | Penis cytologic material |
| 110933003 | SNOMED CT | 2.16.840.1.113883.6.96 | Prostate cytologic material |
| 110935005 | SNOMED CT | 2.16.840.1.113883.6.96 | Testis cytologic material |
| 110937002 | SNOMED CT | 2.16.840.1.113883.6.96 | Seminal vesicle cytologic material |
| 110939004 | SNOMED CT | 2.16.840.1.113883.6.96 | Vas deferens cytologic material |
| 110941003 | SNOMED CT | 2.16.840.1.113883.6.96 | Epididymis cytologic material |
| 110945007 | SNOMED CT | 2.16.840.1.113883.6.96 | Vulva cytologic material |
| 110947004 | SNOMED CT | 2.16.840.1.113883.6.96 | Vagina cytologic material |
| 110949001 | SNOMED CT | 2.16.840.1.113883.6.96 | Cervix cytologic material |
| 110955006 | SNOMED CT | 2.16.840.1.113883.6.96 | Endometrium cytologic material |
| 110957003 | SNOMED CT | 2.16.840.1.113883.6.96 | Fallopian tube cytologic material |
| 110958008 | SNOMED CT | 2.16.840.1.113883.6.96 | Urinary tract cytologic material |
| 110959000 | SNOMED CT | 2.16.840.1.113883.6.96 | Placenta cytologic material |
| 110961009 | SNOMED CT | 2.16.840.1.113883.6.96 | Chorion cytologic material |
| 110968003 | SNOMED CT | 2.16.840.1.113883.6.96 | Fetal cytologic material |
| ... | | | |

Figure 97: Specimen Collection Procedure (ARO) Example

<procedure classCode="PROC" moodCode="EVN">

<!-- Specimen Collection Procedure (ARO) -->

<templateId root="2.16.840.1.113883.10.20.5.6.188"/>

<!-- Date specimen collected -->

<effectiveTime value="20090121"/>

<specimen>

<specimenRole>

<specimenPlayingEntity>

<!-- Specimen type -->

<code codeSystem="2.16.840.1.113883.6.96"

codeSystemName="SNOMED CT"

code="119297000" displayName="Blood specimen"/>

</specimenPlayingEntity>

</specimenRole>

</specimen>

<entryRelationship typeCode="COMP" inversionInd="true">

<encounter classCode="ENC" moodCode="EVN">

<!--Specimen Collection Encounter (ARO) -->

<templateId root="2.16.840.1.113883.10.20.5.6.187"/>

<!-- Conforms to Consolidated CDA Encounter Activities template -->

<templateId root="2.16.840.1.113883.10.20.22.4.49"/>

...

</encounter>

</entryRelationship>

<entryRelationship typeCode="COMP" inversionInd="true">

<organizer classCode="CLUSTER" moodCode="EVN">

<!-- Isolate Susceptibility Tests Organizer -->

<templateId root="2.16.840.1.113883.10.20.5.6.201"/>

...

</entryRelationship>

</procedure>

Specimen Collection Procedure (LIO)

[procedure: identifier oid:2.16.840.1.113883.10.20.5.6.165 (closed)]

Table 250: Specimen Collection Procedure (LIO) Contexts

| Contained By: | Contains: |
| --- | --- |
| [Pathogen Identified Observation (LIO)](#E_Pathogen_Identified_Observation_LIO) (required) | [Specimen Collection Encounter (LIO)](#E_Specimen_Collection_Encounter_LIO) |

The Specimen Collection Procedure (LIO) records the date a specimen was collected and the type of specimen. It includes a Specimen Collection Encounter (LIO), which records the facility location where the specimen was collected and, for an inpatient, the date the patient was admitted or transferred to that in-facility location. The template is derived from the Specimen Collection Procedure template from Public Health Case Reports.

In the LIO Report, a collection procedure code is not recorded. The effectiveTime element records the date when the specimen was collected. The participant element records the specimen type.

Table 251: Specimen Collection Procedure (LIO) Constraints Overview

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| XPath | Card. | Verb | Data Type | CONF# | Value |
| procedure (identifier: oid:2.16.840.1.113883.10.20.5.6.165) | | | | | |
| @classCode | 1..1 | SHALL |  | [21389](#C_21389) | 2.16.840.1.113883.5.6 (HL7ActClass) = PROC |
| @moodCode | 1..1 | SHALL |  | [21390](#C_21390) | 2.16.840.1.113883.5.1001 (ActMood) = EVN |
| templateId | 1..1 | SHALL |  | [21982](#C_21982) |  |
| @root | 1..1 | SHALL |  | [21983](#C_21983) | 2.16.840.1.113883.10.20.5.6.165 |
| effectiveTime | 1..1 | SHALL |  | [21391](#C_21391) |  |
| @value | 1..1 | SHALL |  | [21392](#C_21392) |  |
| participant | 1..1 | SHALL |  | [21393](#C_21393) |  |
| @typeCode | 1..1 | SHALL |  | [21394](#C_21394) | 2.16.840.1.113883.5.90 (HL7ParticipationType) = PRD |
| participantRole | 1..1 | SHALL |  | [21395](#C_21395) |  |
| @classCode | 1..1 | SHALL |  | [21396](#C_21396) | 2.16.840.1.113883.5.110 (RoleClass) = SPEC |
| playingEntity | 1..1 | SHALL |  | [21397](#C_21397) |  |
| code | 1..1 | SHALL |  | [21398](#C_21398) | 2.16.840.1.114222.4.11.3249 (NHSNSpecimenTypeCode) |
| @nullFlavor | 0..1 | MAY |  | [28200](#C_28200) | UNK |
| entryRelationship | 1..1 | SHALL |  | [21400](#C_21400) |  |
| @typeCode | 1..1 | SHALL |  | [21401](#C_21401) | 2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = COMP |
| @inversionInd | 1..1 | SHALL |  | [21402](#C_21402) | true |
| encounter | 1..1 | SHALL |  | [21403](#C_21403) | [Specimen Collection Encounter (LIO) (identifier: oid:2.16.840.1.113883.10.20.5.6.164](#E_Specimen_Collection_Encounter_LIO) |

1. SHALL contain exactly one [1..1] @classCode="PROC" Procedure (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 STATIC) (CONF:21389).
2. SHALL contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 STATIC) (CONF:21390).
3. SHALL contain exactly one [1..1] templateId (CONF:21982) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.6.165" (CONF:21983).
4. SHALL contain exactly one [1..1] effectiveTime (CONF:21391).
   1. This effectiveTime SHALL contain exactly one [1..1] @value (CONF:21392).
5. SHALL contain exactly one [1..1] participant (CONF:21393).
   1. This participant SHALL contain exactly one [1..1] @typeCode="PRD" Product (CodeSystem: HL7ParticipationType 2.16.840.1.113883.5.90 STATIC) (CONF:21394).
   2. This participant SHALL contain exactly one [1..1] participantRole (CONF:21395).
      1. This participantRole SHALL contain exactly one [1..1] @classCode="SPEC" Specimen (CodeSystem: RoleClass 2.16.840.1.113883.5.110 STATIC) (CONF:21396).
      2. This participantRole SHALL contain exactly one [1..1] playingEntity (CONF:21397).

To record a specimen type, use @code. To record that the specimen type is not known, set the value of @nullFlavor to UNK.

* + - 1. This playingEntity SHALL contain exactly one [1..1] code, which SHALL be selected from ValueSet [NHSNSpecimenTypeCode](#NHSNSpecimenTypeCode) 2.16.840.1.114222.4.11.3249 DYNAMIC (CONF:21398).
         1. This code MAY contain zero or one [0..1] @nullFlavor="UNK" (CONF:28200).

1. SHALL contain exactly one [1..1] entryRelationship (CONF:21400).
   1. This entryRelationship SHALL contain exactly one [1..1] @typeCode="COMP" Has component (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002 STATIC) (CONF:21401).
   2. This entryRelationship SHALL contain exactly one [1..1] @inversionInd="true" (CONF:21402).
   3. This entryRelationship SHALL contain exactly one [1..1] [Specimen Collection Encounter (LIO)](#E_Specimen_Collection_Encounter_LIO) (identifier: oid:2.16.840.1.113883.10.20.5.6.164) (CONF:21403).

Figure 98: Specimen Collection Procedure (LIO) Example

<!-- Specimen collection procedure contains specimen collection encounter -->

<entryRelationship typeCode="COMP">

<procedure classCode="PROC" moodCode="EVN">

<!-- Specimen Collection Procedure (LIO) -->

<templateId root="2.16.840.1.113883.10.20.5.6.165" />

<!-- Date specimen collected -->

<effectiveTime value="20090121" />

...

<entryRelationship typeCode="COMP" inversionInd="true">

<!-- Specimen Collection Encounter (LIO) -->

<encounter classCode="ENC" moodCode="EVN">

<!-- C-CDA Encounter Activities templateId -->

<templateId root="2.16.840.1.113883.10.20.22.4.49" />

<!-- HAI Specimen Collection Encounter (LIO) templateId -->

<templateId root="2.16.840.1.113883.10.20.5.6.164" />

<id nullFlavor="NA" />

<effectiveTime>

<low value="20090117"/>

</effectiveTime>

</encounter>

</entryRelationship>

</procedure>

</entryRelationship>

Figure 99: Specimen Collection Date and Type (LIO) Example

<procedure classCode="PROC" moodCode="EVN">

<templateId root="2.16.840.1.113883.10.20.5.6.165" />

<!-- Date specimen collected -->

<effectiveTime value="20090121" />

<!-- Specimen type -->

<participant typeCode="PRD">

<participantRole classCode="SPEC">

<playingEntity>

<code codeSystem="2.16.840.1.113883.6.96"

codeSystemName="SNOMED CT"

code="122571007"

displayName="Pericardial fluid">

</code>

</playingEntity>

</participantRole>

</participant>

...

</procedure>

Spinal Fusion Level Observation

[observation: identifier oid:2.16.840.1.113883.10.20.5.6.166 (closed)]

Table 252: Spinal Fusion Level Observation Contexts

| Contained By: | Contains: |
| --- | --- |
| [Procedure Details Clinical Statement in a Procedure Report (V2)](#Procedure_Details_Clinical_Statement_in) (optional) |  |

This observation records the spinal level of a spinal fusion procedure.

Table 253: Spinal Fusion Level Observation Constraints Overview

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| XPath | Card. | Verb | Data Type | CONF# | Value |
| observation (identifier: oid:2.16.840.1.113883.10.20.5.6.166) | | | | | |
| @classCode | 1..1 | SHALL |  | [21543](#C_21543) | 2.16.840.1.113883.5.6 (HL7ActClass) = OBS |
| @moodCode | 1..1 | SHALL |  | [21544](#C_21544) | 2.16.840.1.113883.5.1001 (ActMood) = EVN |
| templateId | 1..1 | SHALL |  | [28283](#C_28283) |  |
| @root | 1..1 | SHALL |  | [28284](#C_28284) | 2.16.840.1.113883.10.20.22.4.4 |
| templateId | 1..1 | SHALL |  | [21553](#C_21553) |  |
| @root | 1..1 | SHALL |  | [21554](#C_21554) | 2.16.840.1.113883.10.20.5.6.166 |
| id | 1..1 | SHALL |  | [21555](#C_21555) |  |
| @nullFlavor | 1..1 | SHALL |  | [22775](#C_22775) | NA |
| code | 1..1 | SHALL |  | [21545](#C_21545) |  |
| @code | 1..1 | SHALL | CD | [21546](#C_21546) | 2.16.840.1.113883.5.4 (ActCode) = ASSERTION |
| statusCode | 1..1 | SHALL |  | [21547](#C_21547) |  |
| @code | 1..1 | SHALL |  | [21548](#C_21548) | 2.16.840.1.113883.5.14 (ActStatus) = completed |
| value | 1..1 | SHALL | CD | [21549](#C_21549) | 2.16.840.1.113883.13.11 (NHSNSpinalFusionLevelCode) |

1. Conforms to Problem Observation template (identifier: oid:2.16.840.1.113883.10.20.22.4.4).
2. SHALL contain exactly one [1..1] @classCode="OBS" Observation (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 STATIC) (CONF:21543).
3. SHALL contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 STATIC) (CONF:21544).
4. SHALL contain exactly one [1..1] templateId (CONF:28283) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.4.4" (CONF:28284).
5. SHALL contain exactly one [1..1] templateId (CONF:21553) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.6.166" (CONF:21554).
6. SHALL contain exactly one [1..1] id (CONF:21555).
   1. This id SHALL contain exactly one [1..1] @nullFlavor="NA" (CONF:22775).
7. SHALL contain exactly one [1..1] code (CONF:21545).
   1. This code SHALL contain exactly one [1..1] @code="ASSERTION" Assertion (CodeSystem: ActCode 2.16.840.1.113883.5.4 STATIC) (CONF:21546).
8. SHALL contain exactly one [1..1] statusCode (CONF:21547).
   1. This statusCode SHALL contain exactly one [1..1] @code="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14 STATIC) (CONF:21548).
9. SHALL contain exactly one [1..1] value with @xsi:type="CD", where the code SHALL be selected from ValueSet [NHSNSpinalFusionLevelCode](#NHSNSpinalFusionLevelCode) 2.16.840.1.113883.13.11 STATIC 2009-06-25 (CONF:21549).

Table 254: NHSNSpinalFusionLevelCode

|  |  |  |  |
| --- | --- | --- | --- |
| Value Set: NHSNSpinalFusionLevelCode 2.16.840.1.113883.13.11  Code System: cdcNHSN 2.16.840.1.113883.6.277 | | | |
| Code | Code System | Code System OID | Print Name |
| 1101-5 | cdcNHSN | 2.16.840.1.113883.6.277 | atlas-axis (C1-C2 only) |
| 1102-3 | cdcNHSN | 2.16.840.1.113883.6.277 | atlas-axis/cervical (C1-C7: any combination) |
| 1103-1 | cdcNHSN | 2.16.840.1.113883.6.277 | cervical (C3-C7: any combination) |
| 1104-9 | cdcNHSN | 2.16.840.1.113883.6.277 | cervical/dorsal/dorsolumbar (Extends from any cervical through any lumbar levels ) |
| 1105-6 | cdcNHSN | 2.16.840.1.113883.6.277 | dorsal/dorsolumbar (T1-L5: any combination) |
| 1106-4 | cdcNHSN | 2.16.840.1.113883.6.277 | lumbar/lumbosacral (L1-S5: any combination) |

Figure 100: Spinal Fusion Level Observation Example

<observation classCode="OBS" moodCode="EVN">

<!-- Problem Observation templateId -->

<templateId root="2.16.840.1.113883.10.20.22.4.4"/>

<!-- HAI Spinal Fusion Level Observation templateId -->

<templateId root="2.16.840.1.113883.10.20.5.6.166"/>

<id nullFlavor="NA"/>

<code codeSystem="2.16.840.1.113883.5.4" code="ASSERTION"/>

<statusCode code="completed"/>

<value xsi:type="CD"

codeSystem="2.16.840.1.113883.6.277"

codeSystemName="cdcNHSN"

code="1101-5"

displayName="atlas-axis (C1-C2 only)"/>

</observation>

SSI Detected Using Toolkit Observation

[observation: identifier oid:2.16.840.1.113883.10.20.5.6.206 (closed)]

Table 255: SSI Detected Using Toolkit Observation Contexts

| Contained By: | Contains: |
| --- | --- |
| [Infection Details Section in an SSI Report (V2)](#S_Infection_Details_Section_in_an_SSI_V2) (required) |  |

This template is used to indicate that a surgical site infection was identified through the use of discharge diagnosis or procedure codes as described in the NHSN reporting protocol. It is based on the C-CDA Problem Observation template.

When the surgical site infection was identified through the use of discharge diagnosis or procedure codes, set the value of @negationInd to false. When the surgical site infection was not identified through the use of discharge diagnosis or procedure codes, set the value of @negationInd to true. If this observation is not required per the NHSN protocol, then set the value of @nullFlavor to NA.

Table 256: SSI Detected Using Toolkit Observation Constraints Overview

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| XPath | Card. | Verb | Data Type | CONF# | Value |
| observation (identifier: oid:2.16.840.1.113883.10.20.5.6.206) | | | | | |
| @nullFlavor | 0..1 | MAY |  | [30277](#C_30277) | NA |
| @classCode | 1..1 | SHALL |  | [30278](#C_30278) | 2.16.840.1.113883.5.6 (HL7ActClass) = OBS |
| @moodCode | 1..1 | SHALL |  | [30279](#C_30279) | 2.16.840.1.113883.5.1001 (ActMood) = EVN |
| @negationInd | 0..1 | MAY |  | [30280](#C_30280) |  |
| templateId | 1..1 | SHALL |  | [30282](#C_30282) |  |
| @root | 1..1 | SHALL |  | [30283](#C_30283) | 2.16.840.1.113883.10.20.5.6.206 |
| id | 1..1 | SHALL |  | [30284](#C_30284) |  |
| @nullFlavor | 1..1 | SHALL |  | [30285](#C_30285) | NA |
| code | 1..1 | SHALL |  | [30286](#C_30286) |  |
| @code | 1..1 | SHALL |  | [30287](#C_30287) | ASSERTION |
| @codeSystem | 1..1 | SHALL |  | [30288](#C_30288) | 2.16.840.1.113883.5.4 (ActCode) = 2.16.840.1.113883.5.4 |
| statusCode | 1..1 | SHALL |  | [30289](#C_30289) |  |
| @code | 1..1 | SHALL |  | [30290](#C_30290) | 2.16.840.1.113883.5.14 (ActStatus) = completed |
| value | 1..1 | SHALL | CD | [30291](#C_30291) |  |
| @code | 1..1 | SHALL |  | [30292](#C_30292) | 1238-5 |
| @codeSystem | 1..1 | SHALL |  | [30293](#C_30293) | 2.16.840.1.113883.6.277 (cdcNHSN) = 2.16.840.1.113883.6.277 |

If this observation is not required per the NHSN protocol then set the value of @nullFlavor to NA.

1. MAY contain zero or one [0..1] @nullFlavor="NA" (CONF:30277).
   1. If the value of @nullFlavor is set to NA then the value of @negationInd SHALL NOT be set (CONF:30298).
2. SHALL contain exactly one [1..1] @classCode="OBS" (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6) (CONF:30278).
3. SHALL contain exactly one [1..1] @moodCode="EVN" (CodeSystem: ActMood 2.16.840.1.113883.5.1001) (CONF:30279).
4. MAY contain zero or one [0..1] @negationInd (CONF:30280).
   1. If the surgical site infection was identified through the use of discharge diagnosis or procedure codes, the value of @negationInd SHALL be false. If the surgical site infection was not identified through the use of discharge diagnosis or procedure codes, the value of @negationInd SHALL be true.   If the value of @negationInd is set then the value of @nullFlavor SHALL NOT be set (CONF:30281).
5. SHALL contain exactly one [1..1] templateId (CONF:30282) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.6.206" (CONF:30283).
6. SHALL contain exactly one [1..1] id (CONF:30284).
   1. This id SHALL contain exactly one [1..1] @nullFlavor="NA" (CONF:30285).
7. SHALL contain exactly one [1..1] code (CONF:30286).
   1. This code SHALL contain exactly one [1..1] @code="ASSERTION" (CONF:30287).
   2. This code SHALL contain exactly one [1..1] @codeSystem="2.16.840.1.113883.5.4" (CodeSystem: ActCode 2.16.840.1.113883.5.4) (CONF:30288).
8. SHALL contain exactly one [1..1] statusCode (CONF:30289).
   1. This statusCode SHALL contain exactly one [1..1] @code="completed" (CodeSystem: ActStatus 2.16.840.1.113883.5.14) (CONF:30290).
9. SHALL contain exactly one [1..1] value with @xsi:type="CD" (CONF:30291).
   1. This value SHALL contain exactly one [1..1] @code="1238-5" SSI detected using the NHSN ICD-Code based Admit and Readmit SSI Surveillance Toolkit (CONF:30292).
   2. This value SHALL contain exactly one [1..1] @codeSystem="2.16.840.1.113883.6.277" (CodeSystem: cdcNHSN 2.16.840.1.113883.6.277) (CONF:30293).

Figure 101: SSI Detected Using Toolkit Observation Example

<!--

If the surgical site infection was identified through the use

of discharge diagnosis or procedure codes, the value of

@negationInd SHALL be false.

If the surgical site infection was not identified through the

use of discharge diagnosis or procedure codes,

the value of @negationInd SHALL be true.

If the value of @negationInd is set then the value of

@nullFlavor SHALL NOT be set.

If this observation is not required per the NHSN protocol

set the value of nullFlavor to NA as follows:

<observation classCode="OBS" moodCode="EVN" nullFlavor="NA">

-->

<observation classCode="OBS" moodCode="EVN" negationInd="false">

<!-- SSI Detected Using Toolkit Observation -->

<templateId root="2.16.840.1.113883.10.20.5.6.206"/>

<id nullFlavor="NA"/>

<code codeSystem="2.16.840.1.113883.5.4" code="ASSERTION"/>

<statusCode code="completed"/>

<value xsi:type="CD" code="1238-5"

displayName="SSI detected using the NHSN ICD-Code based Admit

and Readmit SSI Surveillance Toolkit"

codeSystem="2.16.840.1.113883.6.277"

codeSystemName="cdcNHSN"/>

</observation>

Sterile Barriers Applied Clinical Statement

[procedure: identifier oid:2.16.840.1.113883.10.20.5.6.167 (closed)]

Table 257: Sterile Barriers Applied Clinical Statement Contexts

| Contained By: | Contains: |
| --- | --- |
| [Central-Line Insertion Preparation Organizer](#E_CentralLine_Insertion_Preparation_Org) (required) |  |

This clinical statement records sterile barriers applied. It is used in the first, preparatory step in the central-line insertion practice.

Table 258: Sterile Barriers Applied Clinical Statement Constraints Overview

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| XPath | Card. | Verb | Data Type | CONF# | Value |
| procedure (identifier: oid:2.16.840.1.113883.10.20.5.6.167) | | | | | |
| @classCode | 1..1 | SHALL |  | [21531](#C_21531) | 2.16.840.1.113883.5.6 (HL7ActClass) = PROC |
| @moodCode | 1..1 | SHALL |  | [21532](#C_21532) | 2.16.840.1.113883.5.1001 (ActMood) = EVN |
| @negationInd | 1..1 | SHALL |  | [21533](#C_21533) | false |
| templateId | 1..1 | SHALL |  | [28285](#C_28285) |  |
| @root | 1..1 | SHALL |  | [28286](#C_28286) | 2.16.840.1.113883.10.20.22.4.14 |
| templateId | 1..1 | SHALL |  | [21558](#C_21558) |  |
| @root | 1..1 | SHALL |  | [21559](#C_21559) | 2.16.840.1.113883.10.20.5.6.167 |
| id | 1..1 | SHALL |  | [21560](#C_21560) |  |
| @nullFlavor | 1..1 | SHALL |  | [22772](#C_22772) |  |
| code | 1..1 | SHALL |  | [21534](#C_21534) |  |
| @code | 1..1 | SHALL | CD | [21535](#C_21535) | 2.16.840.1.113883.6.96 (SNOMED CT) = 370822003 |
| statusCode | 1..1 | SHALL |  | [21561](#C_21561) |  |
| @code | 1..1 | SHALL |  | [21562](#C_21562) | 2.16.840.1.113883.5.14 (ActStatus) = completed |
| participant | 0..\* | MAY |  | [21536](#C_21536) |  |
| @typeCode | 1..1 | SHALL |  | [21537](#C_21537) | 2.16.840.1.113883.5.90 (HL7ParticipationType) = DEV |
| participantRole | 1..1 | SHALL |  | [21538](#C_21538) |  |
| @classCode | 1..1 | SHALL |  | [21539](#C_21539) | 2.16.840.1.113883.5.110 (RoleClass) = MANU |
| playingDevice | 1..1 | SHALL |  | [21540](#C_21540) |  |
| code | 1..1 | SHALL |  | [21541](#C_21541) | 2.16.840.1.114222.4.11.3184 (NHSNSterileBarrierCode) |

1. Conforms to Procedure Activity Procedure template (identifier: oid:2.16.840.1.113883.10.20.22.4.14).
2. SHALL contain exactly one [1..1] @classCode="PROC" Procedure (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 STATIC) (CONF:21531).
3. SHALL contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 STATIC) (CONF:21532).
4. SHALL contain exactly one [1..1] @negationInd="false" (CONF:21533).
5. SHALL contain exactly one [1..1] templateId (CONF:28285) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.4.14" (CONF:28286).
6. SHALL contain exactly one [1..1] templateId (CONF:21558) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.6.167" (CONF:21559).
7. SHALL contain exactly one [1..1] id (CONF:21560).
   1. This id SHALL contain exactly one [1..1] @nullFlavor (CONF:22772).
8. SHALL contain exactly one [1..1] code (CONF:21534).
   1. This code SHALL contain exactly one [1..1] @code="370822003" Use of sterile technique (CodeSystem: SNOMED CT 2.16.840.1.113883.6.96 STATIC) (CONF:21535).
9. SHALL contain exactly one [1..1] statusCode (CONF:21561).
   1. This statusCode SHALL contain exactly one [1..1] @code="completed" (CodeSystem: ActStatus 2.16.840.1.113883.5.14) (CONF:21562).
10. MAY contain zero or more [0..\*] participant (CONF:21536).
    1. The participant, if present, SHALL contain exactly one [1..1] @typeCode="DEV" Device (CodeSystem: HL7ParticipationType 2.16.840.1.113883.5.90 STATIC) (CONF:21537).
    2. The participant, if present, SHALL contain exactly one [1..1] participantRole (CONF:21538).
       1. This participantRole SHALL contain exactly one [1..1] @classCode="MANU" (CodeSystem: RoleClass 2.16.840.1.113883.5.110 STATIC) (CONF:21539).
       2. This participantRole SHALL contain exactly one [1..1] playingDevice (CONF:21540).
          1. This playingDevice SHALL contain exactly one [1..1] code, which SHALL be selected from ValueSet [NHSNSterileBarrierCode](#NHSNSterileBarrierCode) 2.16.840.1.114222.4.11.3184 DYNAMIC (CONF:21541).

Table 259: NHSNSterileBarrierCode

|  |  |  |  |
| --- | --- | --- | --- |
| Value Set: NHSNSterileBarrierCode 2.16.840.1.114222.4.11.3184  Code System: cdcNHSN 2.16.840.1.113883.6.277 | | | |
| Code | Code System | Code System OID | Print Name |
| 6122-6 | cdcNHSN | 2.16.840.1.113883.6.277 | Cap |
| 6112-7 | cdcNHSN | 2.16.840.1.113883.6.277 | Large sterile drape |
| 6110-1 | cdcNHSN | 2.16.840.1.113883.6.277 | Mask/Eye shield |
| 6113-5 | cdcNHSN | 2.16.840.1.113883.6.277 | Sterile gloves |
| 6111-9 | cdcNHSN | 2.16.840.1.113883.6.277 | Sterile gown |

Figure 102: Sterile Barriers Applied Clinical Statement Example

<procedure moodCode="EVN" classCode="PROC" negationInd="false">

<!-- C-CDA Procedure Activity Procedure templateId -->

<templateId root="2.16.840.1.113883.10.20.22.4.14" />

<!-- HAI Sterile Barriers Applied Clinical Statement templateId -->

<templateId root="2.16.840.1.113883.10.20.5.6.167" />

<id nullFlavor="NA" />

<code code="370822003"

codeSystem="2.16.840.1.113883.6.96"

codeSystemName="SNOMED CT"

displayName="Use of Sterile Technique" />

<statusCode code="completed" />

<participant typeCode="DEV">

<participantRole classCode="MANU">

<playingDevice>

<code code="6110-1"

codeSystem="2.16.840.1.113883.6.277"

codeSystemName="cdcNHSN"

displayName="Mask/Eye shield" />

</playingDevice>

</participantRole>

</participant>

...

</procedure>

Summary Data Observation (AUP)

[observation: identifier oid:2.16.840.1.113883.10.20.5.6.194 (closed)]

Table 260: Summary Data Observation (AUP) Contexts

| Contained By: | Contains: |
| --- | --- |
| [Summary Encounter (AUP)](#E_Summary_Encounter_AUP) (required) |  |

This Summary Data Observation records Summary Data Observation that records data for the antimicrobial stratified by route of administration. (See the NHSN protocol for how the values are calculated.) If a value is not applicable for a combination of drug and route, the value of @nullFlavor must be NA.

Table 261: Summary Data Observation (AUP) Constraints Overview

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| XPath | Card. | Verb | Data Type | CONF# | Value |
| observation (identifier: oid:2.16.840.1.113883.10.20.5.6.194) | | | | | |
| @classCode | 1..1 | SHALL |  | [22910](#C_22910) | 2.16.840.1.113883.5.6 (HL7ActClass) = OBS |
| @moodCode | 1..1 | SHALL |  | [22911](#C_22911) | 2.16.840.1.113883.5.1001 (ActMood) = EVN |
| templateId | 1..1 | SHALL |  | [22912](#C_22912) |  |
| @root | 1..1 | SHALL |  | [22913](#C_22913) | 2.16.840.1.113883.10.20.5.6.194 |
| code | 1..1 | SHALL |  | [22914](#C_22914) |  |
| statusCode | 1..1 | SHALL |  | [22915](#C_22915) |  |
| @code | 1..1 | SHALL |  | [28111](#C_28111) | 2.16.840.1.113883.5.14 (ActStatus) = completed |
| value | 1..1 | SHALL |  | [22916](#C_22916) |  |
| methodCode | 1..1 | SHALL |  | [23044](#C_23044) | 2.16.840.1.114222.4.11.3361 (NHSNRouteOfAdminstrationAURPCode) |

1. SHALL contain exactly one [1..1] @classCode="OBS" Observation (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 STATIC) (CONF:22910).
2. SHALL contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 STATIC) (CONF:22911).
3. SHALL contain exactly one [1..1] templateId (CONF:22912) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.6.194" (CONF:22913).
4. SHALL contain exactly one [1..1] code (CONF:22914).
5. SHALL contain exactly one [1..1] statusCode (CONF:22915).
   1. This statusCode SHALL contain exactly one [1..1] @code="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14) (CONF:28111).
6. SHALL contain exactly one [1..1] value (CONF:22916).
7. SHALL contain exactly one [1..1] methodCode, which SHALL be selected from ValueSet [NHSNRouteOfAdminstrationAURPCode](#NHSNRouteOfAdminstrationAURPCode) 2.16.840.1.114222.4.11.3361 (CONF:23044).
8. If the observation reports a number of days, the value of value/xsi:type SHALL be PQ and the value of value/@unit SHALL be d. If the observation reports a number of patients, the value of value/@xsi:type SHALL be INT. If the value is a code, the value of value/@xsi:type SHALL be CD (CONF:22917).

Table 262: NHSNRouteOfAdminstrationAURPCode

|  |  |  |  |
| --- | --- | --- | --- |
| Value Set: NHSNRouteOfAdminstrationAURPCode 2.16.840.1.114222.4.11.3361  Code System: SNOMED CT 2.16.840.1.113883.6.96 or cdcNHSN 2.16.840.1.113883.6.277 | | | |
| Code | Code System | Code System OID | Print Name |
| 2522-1 | cdcNHSN | 2.16.840.1.113883.6.277 | Digestive tract route [A route that begins anywhere in the digestive tract extending from the mouth through rectum.] |
| 2523-9 | cdcNHSN | 2.16.840.1.113883.6.277 | Respiratory tract route [A route that begins within the respiratory tract, including the oropharynx and nasopharynx.] |
| 47625008 | SNOMED CT | 2.16.840.1.113883.6.96 | Intravenous route [An intravascular route that begins with a vein.] |
| 78421000 | SNOMED CT | 2.16.840.1.113883.6.96 | Intramuscular route [A route that begins within a muscle.] |

Figure 103: Summary Data Observation (AUP) Example

<observation classCode="OBS" moodCode="EVN">

<templateId root="2.16.840.1.113883.10.20.5.6.194" />

<code codeSystem="2.16.840.1.113883.6.277"

codeSystemName="cdcNHSN"

code="2524-7"

displayName="Number of Therapy Days" />

<statusCode code="completed" />

<value xsi:type="PQ" unit="d" value="3" />

<methodCode code="2523-9" codeSystemName="cdcNHSN"

codeSystem="2.16.840.1.113883.6.277"

displayName="Respiratory tract route"/>

</observation>

Summary Data Observation (POM)

[observation: identifier oid:2.16.840.1.113883.10.20.5.6.192 (closed)]

Table 263: Summary Data Observation (POM) Contexts

| Contained By: | Contains: |
| --- | --- |
| [Summary Encounter (POM)](#E_Summary_Encounter_POM) (required) | [Summary Data Observation](#E_Summary_Data_Observation) |

The POM Report extends the simple pattern for Summary Data Observation. When recording AST outcome measures, Summary Data Observations record the organism monitored, and the data required by NHSN protocol are recorded within those observations.

Table 264: Summary Data Observation (POM) Constraints Overview

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| XPath | Card. | Verb | Data Type | CONF# | Value |
| observation (identifier: oid:2.16.840.1.113883.10.20.5.6.192) | | | | | |
| @classCode | 1..1 | SHALL |  | [22855](#C_22855) | 2.16.840.1.113883.5.6 (HL7ActClass) = OBS |
| @moodCode | 1..1 | SHALL |  | [22856](#C_22856) | 2.16.840.1.113883.5.1001 (ActMood) = EVN |
| templateId | 1..1 | SHALL |  | [22857](#C_22857) |  |
| @root | 1..1 | SHALL |  | [22858](#C_22858) | 2.16.840.1.113883.10.20.5.6.192 |
| code | 1..1 | SHALL |  | [22859](#C_22859) |  |
| statusCode | 1..1 | SHALL |  | [22860](#C_22860) |  |
| @code | 1..1 | SHALL |  | [28112](#C_28112) | 2.16.840.1.113883.5.14 (ActStatus) = completed |
| value | 1..1 | SHALL |  | [22861](#C_22861) |  |
| entryRelationship | 0..\* | MAY |  | [23372](#C_23372) |  |
| observation | 1..1 | SHALL |  | [23373](#C_23373) | [Summary Data Observation (identifier: oid:2.16.840.1.113883.10.20.5.6.185](#E_Summary_Data_Observation) |

1. SHALL contain exactly one [1..1] @classCode="OBS" Observation (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 STATIC) (CONF:22855).
2. SHALL contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 STATIC) (CONF:22856).
3. SHALL contain exactly one [1..1] templateId (CONF:22857) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.6.192" (CONF:22858).
4. SHALL contain exactly one [1..1] code (CONF:22859).
5. SHALL contain exactly one [1..1] statusCode (CONF:22860).
   1. This statusCode SHALL contain exactly one [1..1] @code="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14) (CONF:28112).
6. SHALL contain exactly one [1..1] value (CONF:22861).
   1. To record which organism was monitored (code/@code 3193-0 AST Organism Monitored), the value of value/@code SHALL be selected from Value Set NHSNOrganismASTCode 2.16.840.1.114222.4.11.3283 DYNAMIC (CONF:22862).
   2. To record the timing of monitoring (code/@code 1870-5 Timing), the value of value/@code SHALL be selected from Value Set 2.16.840.1.114222.4.11.3247 NHSNTimingCode STATIC 20091030 (CONF:22863).
   3. To record eligibility criteria for monitoring (code/@code 1871-3 Eligibility), the value of value/@code SHALL be selected from Value Set 2.16.840.1.114222.4.11.3248 NHSNEligibilityCode DYNAMIC (CONF:22864).
   4. If the observation reports a number of days, the value of value/xsi:type SHALL be PQ and the value of value/@unit SHALL be d. If the observation reports a number of patients, the value of value/@xsi:type SHALL be INT. If the value is a code, the value of value/@xsi:type SHALL be CD (CONF:23371).
7. MAY contain zero or more [0..\*] entryRelationship (CONF:23372).
   1. The entryRelationship, if present, SHALL contain exactly one [1..1] [Summary Data Observation](#E_Summary_Data_Observation) (identifier: oid:2.16.840.1.113883.10.20.5.6.185) (CONF:23373).
   2. To record which organism was monitored (code/@code 3193-0 AST Organism Monitored) this observation SHALL contain, as entryRelationships where the value of @typeCode is COMP, Summary Data Observations recording the data collected for that class. The specific data required are specified by the NHSN protocol (CONF:23374).

Table 265: NHSNOrganismASTCode

|  |  |  |  |
| --- | --- | --- | --- |
| Value Set: NHSNOrganismASTCode 2.16.840.1.114222.4.11.3283  Code System: SNOMED CT 2.16.840.1.113883.6.96 | | | |
| Code | Code System | Code System OID | Print Name |
| 113727004 | SNOMED CT | 2.16.840.1.113883.6.96 | VRE |
| 115329001 | SNOMED CT | 2.16.840.1.113883.6.96 | MRSA |

Table 266: NHSNTimingCode

|  |  |  |  |
| --- | --- | --- | --- |
| Value Set: NHSNTimingCode 2.16.840.1.114222.4.11.3247  Code System: cdcNHSN 2.16.840.1.113883.6.277 | | | |
| Code | Code System | Code System OID | Print Name |
| 2201-2 | cdcNHSN | 2.16.840.1.113883.6.277 | On admission only |
| 2202-0 | cdcNHSN | 2.16.840.1.113883.6.277 | On admission and on discharge/transfer |

Table 267: NHSNEligibilityCode

|  |  |  |  |
| --- | --- | --- | --- |
| Value Set: NHSNEligibilityCode 2.16.840.1.114222.4.11.3248  Code System: cdcNHSN 2.16.840.1.113883.6.277 | | | |
| Code | Code System | Code System OID | Print Name |
| 2301-0 | cdcNHSN | 2.16.840.1.113883.6.277 | All patients |
| 2302-8 | cdcNHSN | 2.16.840.1.113883.6.277 | Only patients with no prior documentation of colonization or infection |

Figure 104: Summary Data Observation (POM) Example

<!-- example showing AST for MRSA -->

<!-- The organism monitored was MRSA.

Within this observation are child observations

that record additional information about the monitoring

and the data reported by the monitoring. -->

<!-- AST Organism Monitored -->

<entryRelationship typeCode="COMP" negationInd="false">

<observation classCode="OBS" moodCode="EVN">

<templateId root="2.16.840.1.113883.10.20.5.6.192"/>

<code codeSystem="2.16.840.1.113883.6.277"

codeSystemName="cdcNHSN"

code="3193-0

displayName="AST Organism Monitored"/>

<statusCode code="completed"/>

<value xsi:type="CD"

codeSystem="2.16.840.1.113883.6.96"

codeSystemName="SNOMED CT"

code="115329001"

displayName="MRSA"/>

<!-- The observations below are within

the observation of what organism was monitored -->

<!-- Timing of monitoring -->

<entryRelationship typeCode="COMP">

<observation classCode="OBS" moodCode="EVN">

<templateId root="2.16.840.1.113883.10.20.5.6.185"/>

...

</observation>

</entryRelationship>

<!-- Eligibility for monitoring -->

<entryRelationship typeCode="COMP">

<observation classCode="OBS" moodCode="EVN">

<templateId root="2.16.840.1.113883.10.20.5.6.185"/>

...

</observation>

</entryRelationship>

<!-- Number eligible on admission-->

...

<!-- Number performed on admission-->

...

<!-- Number eligible on discharge/transfer -->

...

<!-- Number performed on discharge/transfer-->

...

<!-- Number prevalent cases AST/clinical positive-->

...

<!-- Number prevalent cases previously known-->

...

<!-- Number incident cases -->

...

</observation>

<!-- end of data about monitoring for this organism -->

</entryRelationship>

<!-- end of data about monitoring -->

Summary Data Observation

[observation: identifier oid:2.16.840.1.113883.10.20.5.6.185 (closed)]

Table 268: Summary Data Observation Contexts

| Contained By: | Contains: |
| --- | --- |
| [Summary Encounter](#E_Summary_Encounter) (required)  [Summary Encounter (NICU)](#E_Summary_Encounter_NICU) (required)  [Summary Data Observation (POM)](#E_Summary_Data_Observation_POM) (optional)  [Summary Data Observation (VAT)](#E_Summary_Data_Observation_VAT) (optional)  [Summary Encounter Patient Presence (AUP)](#E_Summary_Encounter_Patient_Presence_AU) (required)  [Summary Encounter (AUP)](#E_Summary_Encounter_AUP) (required)  [Summary Encounter (ARO)](#E_Summary_Encounter_ARO_R1) (required) |  |

The Summary Data Observation is used in some population-summary reports.

The documentationOf/serviceEvent/code in the header identifies the intended content of the report. For example, cdcNHSN code 1879-6 indicates that the data content is "Summary data reporting catheter and ventilator use in an ICU". NHSN protocol specifies which data to report for each type of content. The data required by NHSN for each type of content, at time of publication, are shown in the tables below or in a report-specific Summary Data Observation.

For example, the table of Codes for Intensive Care Unit (ICU) Summary Data shows that at time of publication the NHSN protocol required four data: Number of Patient Days, Number of Central Line Days, Number of Urinary Catheter Days, Number of Ventilator Days, Number of APRV days and Number of New Episodes of Mechanical Ventilation. Accordingly, the Summary Encounter will contain four Summary Data Observations.

Most Summary Data Observations are a simple code/value pair. The code element identifies the datum being reported, and the value element records a number of days, patients, episodes or events.

Table 269: Summary Data Observation Constraints Overview

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| XPath | Card. | Verb | Data Type | CONF# | Value |
| observation (identifier: oid:2.16.840.1.113883.10.20.5.6.185) | | | | | |
| @classCode | 1..1 | SHALL |  | [22407](#C_22407) | 2.16.840.1.113883.5.6 (HL7ActClass) = OBS |
| @moodCode | 1..1 | SHALL |  | [22408](#C_22408) | 2.16.840.1.113883.5.1001 (ActMood) = EVN |
| templateId | 1..1 | SHALL |  | [22409](#C_22409) |  |
| @root | 1..1 | SHALL |  | [22410](#C_22410) | 2.16.840.1.113883.10.20.5.6.185 |
| code | 1..1 | SHALL |  | [22411](#C_22411) |  |
| statusCode | 1..1 | SHALL |  | [22412](#C_22412) |  |
| @code | 1..1 | SHALL |  | [28189](#C_28189) | 2.16.840.1.113883.5.14 (ActStatus) = completed |
| value | 1..1 | SHALL |  | [22413](#C_22413) |  |

1. SHALL contain exactly one [1..1] @classCode="OBS" Observation (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 STATIC) (CONF:22407).
2. SHALL contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 STATIC) (CONF:22408).
3. SHALL contain exactly one [1..1] templateId (CONF:22409) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.6.185" (CONF:22410).
4. SHALL contain exactly one [1..1] code (CONF:22411).
   1. If this is ARO Summary Data, NHSN protocol requires, at the time of publication, the data in the Codes for Antimicrobial Resistance Option (ARO) Summary Data table below (CONF:28192).
   2. If this is ICU Summary Data, NHSN protocol requires, at the time of publication, the data in the Codes for Intensive Care Unit (ICU) Summary Data table below (CONF:28193).
   3. If this is NICU Summary Data, NHSN protocol requires, at the time of publication, the data in the Codes for Neonatal Intensive Care Unit (NICU) Summary Data table below (CONF:28194).
   4. If this is SCA Summary Data, NHSN protocol requires, at the time of publication, the data in the Codes for Specialty Care Area (SCA) Summary Data table below (CONF:28195).
   5. If this is VAT (Dialysis) Summary Data, NHSN protocol requires, at the time of publication, the data in the Codes for Vascular Access Type (Dialysis) Summary Data table below (CONF:28196).
   6. If this is AUP Summary Data, NHSN protocol requires, at the time of publication, the data in the Codes for Antimicrobial Usage, Pharmacy (AUP) Summary Data table below (CONF:28197).
   7. If this is POM Summary Data, NHSN protocol requires, at the time of publication, the data in the Codes for Prevention Process and Outcome Measures (POM) Summary Data table below (CONF:28199).
5. SHALL contain exactly one [1..1] statusCode (CONF:22412).
   1. This statusCode SHALL contain exactly one [1..1] @code="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14) (CONF:28189).
6. SHALL contain exactly one [1..1] value (CONF:22413).
   1. If the observation reports a number of days, the value of value/xsi:type SHALL be PQ and the value of value/@unit SHALL be d. If the observation reports a number of patients, episodes or events the value of value/@xsi:type SHALL be INT. If the value is a code, the value of value/@xsi:type SHALL be CD (CONF:26183).

Table 270: Codes for Antimicrobial Resistance Option (ARO) Summary Data

|  |  |  |  |
| --- | --- | --- | --- |
| Value Set: Codes for Antimicrobial Resistance Option (ARO) Summary Data AROSummaryData  Code System: cdcNHSN 2.16.840.1.113883.6.277    NHSN protocol specifies which data to report for each type of content. The data required by NHSN for ARO Summary, at the time of publication, is contained in this table.    Codes can be found in the hai\_voc.xls file provided with this package. | | | |
| Code | Code System | Code System OID | Print Name |
| 1851-5 | cdcNHSN | 2.16.840.1.113883.6.277 | Number of patient days |
| 1862-2 | cdcNHSN | 2.16.840.1.113883.6.277 | Number of admissions |
| 2409-1 | cdcNHSN | 2.16.840.1.113883.6.277 | Number of blood cultures performed |

Table 271: Codes for Intensive Care Unit (ICU) Summary Data

|  |  |  |  |
| --- | --- | --- | --- |
| Value Set: Codes for Intensive Care Unit (ICU) Summary Data ICUSummaryData  Code System: cdcNHSN 2.16.840.1.113883.6.277    NHSN protocol specifies which data to report for each type of content. The data required by NHSN for ICU Summary, at the time of publication, is contained in this table.    Codes can be found in the hai\_voc.xls file provided with this package. | | | |
| Code | Code System | Code System OID | Print Name |
| 1833-3 | cdcNHSN | 2.16.840.1.113883.6.277 | Number of central line days |
| 1851-5 | cdcNHSN | 2.16.840.1.113883.6.277 | Number of patient days |
| 1852-3 | cdcNHSN | 2.16.840.1.113883.6.277 | Number of ventilator days |
| 1853-1 | cdcNHSN | 2.16.840.1.113883.6.277 | Number of urinary catheter days |
| 1834-1 | cdcNHSN | 2.16.840.1.113883.6.277 | Number of APRV days |
| ... | | | |

Table 272: Codes for Neonatal Intensive Care Unit (NICU) Summary Data

|  |  |  |  |
| --- | --- | --- | --- |
| Value Set: Codes for Neonatal Intensive Care Unit (NICU) Summary Data NICUSummaryData  Code System: cdcNHSN 2.16.840.1.113883.6.277    NHSN protocol specifies which data to report for each type of content. The data required by NHSN for NICU Summary, at the time of publication, is contained in this table.    Codes can be found in the hai\_voc.xls file provided with this package. | | | |
| Code | Code System | Code System OID | Print Name |
| 1851-5 | cdcNHSN | 2.16.840.1.113883.6.277 | Number of patient days |
| 1852-3 | cdcNHSN | 2.16.840.1.113883.6.277 | Number of ventilator days |
| 1854-9 | cdcNHSN | 2.16.840.1.113883.6.277 | Number of central line days including umbilical catheter |
| 3307-6 | cdcNHSN | 2.16.840.1.113883.6.277 | Number of umbilical catheter days |

Table 273: Codes for Specialty Care Area (SCA) Summary Data

|  |  |  |  |
| --- | --- | --- | --- |
| Value Set: Codes for Specialty Care Area (SCA) Summary Data SCASummaryData  Code System: cdcNHSN 2.16.840.1.113883.6.277    NHSN protocol specifies which data to report for each type of content. The data required by NHSN for SCA Summary, at the time of publication, is contained in this table.    Codes can be found in the hai\_voc.xls file provided with this package. | | | |
| Code | Code System | Code System OID | Print Name |
| 1851-5 | cdcNHSN | 2.16.840.1.113883.6.277 | Number of patient days |
| 1852-3 | cdcNHSN | 2.16.840.1.113883.6.277 | Number of ventilator days |
| 1853-1 | cdcNHSN | 2.16.840.1.113883.6.277 | Number of urinary catheter days |
| 3306-8 | cdcNHSN | 2.16.840.1.113883.6.277 | Number of permanent central line days |
| 3305-0 | cdcNHSN | 2.16.840.1.113883.6.277 | Number of temporary central line days |
| 1834-1 | cdcNHSN | 2.16.840.1.113883.6.277 | Number of APRV days |
| ... | | | |

Table 274: Codes for Vascular Access Type (Dialysis) Summary Data

|  |  |  |  |
| --- | --- | --- | --- |
| Value Set: Codes for Vascular Access Type (Dialysis) Summary Data VATDialysisSummaryData  Code System: cdcNHSN 2.16.840.1.113883.6.277    NHSN protocol specifies which data to report for each type of content. The data required by NHSN for VAT (Dialysis) Summary, at the time of publication, is contained in this table.    Codes can be found in the hai\_voc.xls file provided with this package. | | | |
| Code | Code System | Code System OID | Print Name |
| 2310-1 | cdcNHSN | 2.16.840.1.113883.6.277 | Number of chronic hemodialysis patients, vascular access type is fistula |
| 2311-9 | cdcNHSN | 2.16.840.1.113883.6.277 | Number of chronic hemodialysis patients, vascular access type is fistula, buttonhole cannulation |
| 2312-7 | cdcNHSN | 2.16.840.1.113883.6.277 | Number of chronic hemodialysis patients, vascular access type is graft |
| 2313-5 | cdcNHSN | 2.16.840.1.113883.6.277 | Number of chronic hemodialysis patients, vascular access type is tunnelled central line, dialysis |
| 2314-3 | cdcNHSN | 2.16.840.1.113883.6.277 | Number of chronic hemodialysis patients, vascular access type is non-tunnelled central line, dialysis |
| 2315-0 | cdcNHSN | 2.16.840.1.113883.6.277 | Number of chronic hemodialysis patients, vascular access type is other than fistula, graft, or tunneled central line |

Table 275: Codes for Antimicrobial Usage, Pharmacy (AUP) Summary Data

|  |  |  |  |
| --- | --- | --- | --- |
| Value Set: Codes for Antimicrobial Usage, Pharmacy (AUP) Summary Data AUPSummaryData  Code System: cdcNHSN 2.16.840.1.113883.6.277    NHSN protocol specifies which data to report for each type of content. The data required by NHSN for AUP Summary, at the time of publication, is contained in this table.    Codes can be found in the hai\_voc.xls file provided with this package. | | | |
| Code | Code System | Code System OID | Print Name |
| 2524-7 | cdcNHSN | 2.16.840.1.113883.6.277 | Number of therapy days |
| 2525-4 | cdcNHSN | 2.16.840.1.113883.6.277 | Number of patient-present days |
| 1862-2 | cdcNHSN | 2.16.840.1.113883.6.277 | Number of admissions (for facility-wide inpatient reporting) |

Table 276: Codes for Prevention Process and Outcome Measures (POM) Summary Data

|  |  |  |  |
| --- | --- | --- | --- |
| Value Set: Codes for Prevention Process and Outcome Measures (POM) Summary Data POMSummaryData  Code System: cdcNHSN 2.16.840.1.113883.6.277    NHSN protocol specifies which data to report for each type of content. The data required by NHSN for POM Summary, at the time of publication, is contained in this table.    Codes can be found in the hai\_voc.xls file provided with this package. | | | |
| Code | Code System | Code System OID | Print Name |
| 1851-5 | cdcNHSN | 2.16.840.1.113883.6.277 | Number of patient days (for inpatient location) |
| 1862-2 | cdcNHSN | 2.16.840.1.113883.6.277 | Number of admissions (for inpatient location) |
| 1830-9 | cdcNHSN | 2.16.840.1.113883.6.277 | Number of patient days as adjusted for C.diff reporting (for inpatient location) |
| 1863-0 | cdcNHSN | 2.16.840.1.113883.6.277 | Number of encounters (for outpatient location) |
| 1832-5 | cdcNHSN | 2.16.840.1.113883.6.277 | Number of encounters as adjusted for C.diff reporting (for outpatient location) |
| 1864-8 | cdcNHSN | 2.16.840.1.113883.6.277 | Number of observations in which hand hygiene was indicated |
| 1865-5 | cdcNHSN | 2.16.840.1.113883.6.277 | Number of observations in which hand hygiene was performed |
| 1866-3 | cdcNHSN | 2.16.840.1.113883.6.277 | Number of observations in which the use of gown and gloves was indicated |
| 1867-1 | cdcNHSN | 2.16.840.1.113883.6.277 | Number of observations in which gown and gloves were used |
| 3193-0 | cdcNHSN | 2.16.840.1.113883.6.277 | AST organism monitored |
| 1870-5 | cdcNHSN | 2.16.840.1.113883.6.277 | Timing |
| 1871-3 | cdcNHSN | 2.16.840.1.113883.6.277 | Eligibility |
| 1872-1 | cdcNHSN | 2.16.840.1.113883.6.277 | Number of patients eligible for monitoring at admission/transfer in |
| 1873-9 | cdcNHSN | 2.16.840.1.113883.6.277 | Number of patients on which monitoring was performed at admission/transfer in |
| 1874-7 | cdcNHSN | 2.16.840.1.113883.6.277 | Number of patients eligible for monitoring at discharge/transfer out |
| 1875-4 | cdcNHSN | 2.16.840.1.113883.6.277 | Number of patients on which monitoring was performed at discharge/transfer out |
| ... | | | |

Figure 105: Summary Data Observation Example—ICU

<observation classCode="OBS" moodCode="EVN">

<templateId root="2.16.840.1.113883.10.20.5.6.185"/>

<code codeSystem="2.16.840.1.113883.6.277"

codeSystemName="cdcNHSN"

code="1851-5"

displayName="Number of Patient Days"/>

<statusCode code="completed"/>

<value xsi:type="PQ"

unit="d"

value="100"/>

</observation>

Figure 106: Summary Data Observation Example—NICU

<!-- second participant: a subgroup of population reported on -->

<participant typeCode="SBJ" contextControlCode="OP">

<participantRole classCode="PRS">

<code codeSystem="2.16.840.1.113883.6.277"

codeSystemName="cdcNHSN"

code="3300-1"

displayName="The subset of inpatients whose

birth weight is under 750gm"/>

</participantRole>

</participant>

<entryRelationship typeCode="COMP">

<observation classCode="OBS" moodCode="EVN">

<templateId root="2.16.840.1.113883.10.20.5.6.185"/>

<code code="numPtDays"

codeSystem="2.16.840.1.113883.6.270"

codeSystemName="NHSN Summary Data"

displayName="Patient Days" />

<statusCode code="completed" />

<value unit="d"

value="23"

xsi:type="PQ" />

</observation>

</entryRelationship>

Figure 107: Summary Data Observation Example—SCA

<observation classCode="OBS" moodCode="EVN">

<templateId root="2.16.840.1.113883.10.20.5.6.185"/>

<code codeSystem="2.16.840.1.113883.6.277"

codeSystemName="cdcNHSN"

code="1851-5"

displayName="Number of Patient Days"/>

<statusCode code="completed"/>

<value xsi:type="PQ"

unit="d"

value="100"/>

</observation>

Summary Data Observation (VAT)

[observation: identifier oid:2.16.840.1.113883.10.20.5.6.195 (closed)]

Table 277: Summary Data Observation (VAT) Contexts

| Contained By: | Contains: |
| --- | --- |
| [Summary Encounter (VAT)](#E_Summary_Encounter_VAT) (required) | [Summary Data Observation](#E_Summary_Data_Observation) |

This template specializes the Summary Data Observation for a Vascular Access Type Report. When the vascular access type is fistula there is an entryRelationship containing a Summary Data Observation recording the number of patients with buttonhole cannulation.

Table 278: Summary Data Observation (VAT) Constraints Overview

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| XPath | Card. | Verb | Data Type | CONF# | Value |
| observation (identifier: oid:2.16.840.1.113883.10.20.5.6.195) | | | | | |
| @classCode | 1..1 | SHALL |  | [22933](#C_22933) | 2.16.840.1.113883.5.6 (HL7ActClass) = OBS |
| @moodCode | 1..1 | SHALL |  | [22934](#C_22934) | 2.16.840.1.113883.5.1001 (ActMood) = EVN |
| templateId | 1..1 | SHALL |  | [22935](#C_22935) |  |
| @root | 1..1 | SHALL |  | [22936](#C_22936) | 2.16.840.1.113883.10.20.5.6.195 |
| code | 1..1 | SHALL |  | [22937](#C_22937) | VATDialysisSummaryData (Codes for Vascular Access Type (Dialysis) Summary Data) |
| statusCode | 1..1 | SHALL |  | [22938](#C_22938) | 2.16.840.1.113883.5.14 (ActStatus) |
| @code | 1..1 | SHALL |  | [28113](#C_28113) | 2.16.840.1.113883.5.14 (ActStatus) = completed |
| value | 1..1 | SHALL |  | [22939](#C_22939) |  |
| entryRelationship | 0..1 | MAY |  | [22940](#C_22940) |  |
| @typeCode | 1..1 | SHALL |  | [22941](#C_22941) | 2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = COMP |
| observation | 1..1 | SHALL |  | [22942](#C_22942) | [Summary Data Observation (identifier: oid:2.16.840.1.113883.10.20.5.6.185](#E_Summary_Data_Observation) |

1. SHALL contain exactly one [1..1] @classCode="OBS" Observation (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 STATIC) (CONF:22933).
2. SHALL contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 STATIC) (CONF:22934).
3. SHALL contain exactly one [1..1] templateId (CONF:22935) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.6.195" (CONF:22936).
4. SHALL contain exactly one [1..1] code, which SHOULD be selected from ValueSet [Codes for Vascular Access Type (Dialysis) Summary Data](#Codes_for_Vascular_Access_Type_Dialysis) VATDialysisSummaryData DYNAMIC (CONF:22937).
5. SHALL contain exactly one [1..1] statusCode (CodeSystem: ActStatus 2.16.840.1.113883.5.14 STATIC) (CONF:22938).
   1. This statusCode SHALL contain exactly one [1..1] @code="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14) (CONF:28113).
6. SHALL contain exactly one [1..1] value (CONF:22939).
7. MAY contain zero or one [0..1] entryRelationship (CONF:22940).
   1. The entryRelationship, if present, SHALL contain exactly one [1..1] @typeCode="COMP" (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002) (CONF:22941).
   2. The entryRelationship, if present, SHALL contain exactly one [1..1] [Summary Data Observation](#E_Summary_Data_Observation) (identifier: oid:2.16.840.1.113883.10.20.5.6.185) (CONF:22942).
   3. In a VAT Report, the Summary Observation recording the number of patients with fistula SHALL contain an entryRelationship where the value of @typeCode is COMP, that contains a Summary Data Observation recording the number of those patients with buttonhole cannulation (CONF:22943).
8. If the observation reports a number of days, the value of value/xsi:type SHALL be PQ and the value of value/@unit SHALL be d. If the observation reports a number of patients, the value of value/@xsi:type SHALL be INT. If the value is a code, the value of value/@xsi:type SHALL be CD (CONF:22944).

Figure 108: Summary Data Observation (VAT) Example

<observation classCode="OBS" moodCode="EVN">

<templateId root="2.16.840.1.113883.10.20.5.6.195" />

<code code="2310-1"

codeSystem="2.16.840.1.113883.6.277"

codeSystemName="cdcNHSN"

displayName="Number of Chronic Hemodialysis Patients, vascular access

type is fistula" />

<statusCode code="completed" />

<value value="100" xsi:type="INT" />

<!-- When recording fistula, the patients with buttonhole cannulation

is also required -->

<entryRelationship typeCode="COMP">

<observation classCode="OBS" moodCode="EVN">

<templateId root="2.16.840.1.113883.10.20.5.6.185" />

<code code="2311-9"

codeSystem="2.16.840.1.113883.6.277"

codeSystemName="cdcNHSN"

displayName="Number of chronic hemodialysis patients, vascular

access type is fistula, buttonhole cannulation" />

<statusCode code="completed" />

<value value="20" xsi:type="INT" />

</observation>

</entryRelationship>

</observation>

Summary Encounter (ARO)

[encounter: identifier oid:2.16.840.1.113883.10.20.5.6.199 (closed)]

Table 279: Summary Encounter (ARO) Contexts

| Contained By: | Contains: |
| --- | --- |
| [Summary Data Section (ARO)](#Summary_Data_Section_ARO) (required) | [Summary Data Observation](#E_Summary_Data_Observation) |

The Summary Encounter records a set of summary data. The NHSN protocol defines which data to record for each type of summary report.  Each datum is recorded as a Summary Data Observation.  The data requirements at time of publication are shown in tables under the Summary Data Observation template, above.

A participant element records the location to which the data pertains. The location id has the form <id root=”…” extension=”…”/> with an extension of 'FACWIDEIN' representing the whole facility.

Table 280: Summary Encounter (ARO) Constraints Overview

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| XPath | Card. | Verb | Data Type | CONF# | Value |
| encounter (identifier: oid:2.16.840.1.113883.10.20.5.6.199) | | | | | |
| @classCode | 1..1 | SHALL |  | [23077](#C_23077) | 2.16.840.1.113883.5.6 (HL7ActClass) = ENC |
| @moodCode | 1..1 | SHALL |  | [23078](#C_23078) | 2.16.840.1.113883.5.1001 (ActMood) = EVN |
| templateId | 1..1 | SHALL |  | [23079](#C_23079) |  |
| @root | 1..1 | SHALL |  | [23080](#C_23080) | 2.16.840.1.113883.10.20.5.6.199 |
| participant | 1..1 | SHALL |  | [23081](#C_23081) |  |
| @typeCode | 1..1 | SHALL |  | [23082](#C_23082) | 2.16.840.1.113883.5.90 (HL7ParticipationType) = LOC |
| participantRole | 1..1 | SHALL |  | [23083](#C_23083) |  |
| @classCode | 1..1 | SHALL |  | [23084](#C_23084) | 2.16.840.1.113883.5.41 (EntityClass) = SDLOC |
| id | 1..1 | SHALL |  | [23085](#C_23085) |  |
| @root | 1..1 | SHALL |  | [23086](#C_23086) |  |
| @extension | 1..1 | SHALL |  | [23087](#C_23087) | FACWIDEIN |
| code | 1..1 | SHALL |  | [23088](#C_23088) | 2.16.840.1.113883.6.259 (HL7 HealthcareServiceLocation) |
| @code | 1..1 | SHALL |  | [23089](#C_23089) | 1250-0 |
| @codeSystem | 1..1 | SHALL |  | [23090](#C_23090) | 2.16.840.1.113883.6.259 |
| @displayName | 1..1 | SHOULD |  | [23091](#C_23091) | Facility Wide Inpatient |
| entryRelationship | 1..\* | SHALL |  | [23092](#C_23092) |  |
| @typeCode | 1..1 | SHALL |  | [23093](#C_23093) | 2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = COMP |
| observation | 1..1 | SHALL |  | [23094](#C_23094) | [Summary Data Observation (identifier: oid:2.16.840.1.113883.10.20.5.6.185](#E_Summary_Data_Observation) |

1. SHALL contain exactly one [1..1] @classCode="ENC" Encounter (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 STATIC) (CONF:23077).
2. SHALL contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 STATIC) (CONF:23078).
3. SHALL contain exactly one [1..1] templateId (CONF:23079) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.6.199" (CONF:23080).
4. SHALL contain exactly one [1..1] participant (CONF:23081) such that it
   1. SHALL contain exactly one [1..1] @typeCode="LOC" Location (CodeSystem: HL7ParticipationType 2.16.840.1.113883.5.90 STATIC) (CONF:23082).
   2. SHALL contain exactly one [1..1] participantRole (CONF:23083).
      1. This participantRole SHALL contain exactly one [1..1] @classCode="SDLOC" Service Delivery Location (CodeSystem: EntityClass 2.16.840.1.113883.5.41 STATIC) (CONF:23084).
      2. This participantRole SHALL contain exactly one [1..1] id (CONF:23085).
         1. This id SHALL contain exactly one [1..1] @root (CONF:23086).
         2. This id SHALL contain exactly one [1..1] @extension="FACWIDEIN" (CONF:23087).
      3. This participantRole SHALL contain exactly one [1..1] code (CodeSystem: HL7 HealthcareServiceLocation 2.16.840.1.113883.6.259 DYNAMIC) (CONF:23088).
         1. This code SHALL contain exactly one [1..1] @code="1250-0" (CONF:23089).
         2. This code SHALL contain exactly one [1..1] @codeSystem="2.16.840.1.113883.6.259" (CONF:23090).
         3. This code SHOULD contain exactly one [1..1] @displayName="Facility Wide Inpatient" (CONF:23091).
5. SHALL contain at least one [1..\*] entryRelationship (CONF:23092).
   1. Such entryRelationships SHALL contain exactly one [1..1] @typeCode="COMP" Has component (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002 STATIC) (CONF:23093).
   2. Such entryRelationships SHALL contain exactly one [1..1] [Summary Data Observation](#E_Summary_Data_Observation) (identifier: oid:2.16.840.1.113883.10.20.5.6.185) (CONF:23094).

Figure 109: Summary Encounter (ARO) Example

<!-- Summary Encounter -->

<entry typeCode="DRIV">

<encounter classCode="ENC" moodCode="EVN">

<templateId root="2.16.840.1.113883.10.20.5.6.199"/>

<!-- the location id and type -->

<participant typeCode="LOC">

<participantRole classCode="SDLOC">

<id root="2.111.111.111.10709" extension="FACWIDEIN"/>

<code codeSystem="2.16.840.1.113883.6.259"

codeSystemName="HL7 Healthcare Service Location Code"

code="1250-0"

displayName="Facility Wide Inpatient"/>

</participantRole>

</participant>

<entryRelationship typeCode="COMP">

<observation classCode="OBS" moodCode="EVN">

<templateId root="2.16.840.1.113883.10.20.5.6.185"/>

<code code="1851-5"

codeSystem="2.16.840.1.113883.6.277"

codeSystemName="cdcNHSN"

displayName="Patient Days"/>

<statusCode code="completed"/>

<value xsi:type="PQ" unit="d" value="235"/>

</observation>

</entryRelationship>

<entryRelationship typeCode="COMP">

<observation classCode="OBS" moodCode="EVN">

<templateId root="2.16.840.1.113883.10.20.5.6.185"/>

<code code="1862-2" codeSystem="2.16.840.1.113883.6.270"

codeSystemName="cdcNHSN"

displayName="Admission count"/>

<statusCode code="completed"/>

<value xsi:type="INT" value="46"/>

</observation>

</entryRelationship>

<entryRelationship typeCode="COMP">

<observation classCode="OBS" moodCode="EVN">

<templateId root="2.16.840.1.113883.10.20.5.6.185"/>

<code code="2409-1" codeSystem="2.16.840.1.113883.6.277"

codeSystemName="cdcNHSN"

displayName="Blood cultures performed"/>

<statusCode code="completed"/>

<value xsi:type="INT" value="24"/>

</observation>

</entryRelationship>

</encounter>

</entry>

Summary Encounter (AUP)

[encounter: identifier oid:2.16.840.1.113883.10.20.5.6.198 (closed)]

Table 281: Summary Encounter (AUP) Contexts

| Contained By: | Contains: |
| --- | --- |
| [Summary Data Section (AUP)](#S_Summary_Data_Section_AUP) (required) | [Summary Data Observation (AUP)](#E_Summary_Data_Observation_AUP)  [Summary Data Observation](#E_Summary_Data_Observation) |

The Summary Encounter records a set of summary data, usually for a population such as the patients in a ward in a specified period. The NHSN protocol defines which data to record for each type of summary report.  Each datum is recorded as a Summary Data Observation.

A participant element records the location to which the data pertains. It has three parts: a location id, a location type code, and a scoping entity.  The location id has the form <id root=”…” extension=”…”/> representing a location such as ward 9W, or <id root=”…”/> representing the whole facility. The scoping entity is optional if an id is present.

In an Antimicrobial Use Report, each antimicrobial is represented by a Summary Encounter. The antimicrobial is recorded as a participant in the encounter, in addition to the location participant.

Table 282: Summary Encounter (AUP) Constraints Overview

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| XPath | Card. | Verb | Data Type | CONF# | Value |
| encounter (identifier: oid:2.16.840.1.113883.10.20.5.6.198) | | | | | |
| @classCode | 1..1 | SHALL |  | [23019](#C_23019) | 2.16.840.1.113883.5.6 (HL7ActClass) = ENC |
| @moodCode | 1..1 | SHALL |  | [23020](#C_23020) | 2.16.840.1.113883.5.1001 (ActMood) = EVN |
| templateId | 1..1 | SHALL |  | [23021](#C_23021) |  |
| @root | 1..1 | SHALL |  | [23022](#C_23022) | 2.16.840.1.113883.10.20.5.6.198 |
| participant | 1..1 | SHALL |  | [23023](#C_23023) |  |
| @typeCode | 1..1 | SHALL |  | [23024](#C_23024) | 2.16.840.1.113883.5.90 (HL7ParticipationType) = LOC |
| participantRole | 1..1 | SHALL |  | [23025](#C_23025) |  |
| @classCode | 1..1 | SHALL |  | [23026](#C_23026) | 2.16.840.1.113883.5.41 (EntityClass) = SDLOC |
| participant | 1..1 | SHALL |  | [23030](#C_23030) |  |
| @typeCode | 1..1 | SHALL |  | [23031](#C_23031) | 2.16.840.1.113883.5.90 (HL7ParticipationType) = CSM |
| participantRole | 1..1 | SHALL |  | [23032](#C_23032) |  |
| @classCode | 0..1 | MAY |  | [23033](#C_23033) | 2.16.840.1.113883.5.110 (RoleClass) = MANU |
| code | 1..1 | SHALL |  | [23034](#C_23034) | 2.16.840.1.114222.4.11.3360 (NHSNAntimicrobialAgentAURPCode) |
| entryRelationship | 1..1 | SHALL |  | [23036](#C_23036) |  |
| @typeCode | 1..1 | SHALL |  | [23037](#C_23037) | 2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = COMP |
| observation | 1..1 | SHALL |  | [23038](#C_23038) | [Summary Data Observation (identifier: oid:2.16.840.1.113883.10.20.5.6.185](#E_Summary_Data_Observation) |
| entryRelationship | 4..4 | SHALL |  | [23040](#C_23040) |  |
| @typeCode | 1..1 | SHALL |  | [23041](#C_23041) | 2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = COMP |
| observation | 1..1 | SHALL |  | [23042](#C_23042) | [Summary Data Observation (AUP) (identifier: oid:2.16.840.1.113883.10.20.5.6.194](#E_Summary_Data_Observation_AUP) |

1. SHALL contain exactly one [1..1] @classCode="ENC" Encounter (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 STATIC) (CONF:23019).
2. SHALL contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 STATIC) (CONF:23020).
3. SHALL contain exactly one [1..1] templateId (CONF:23021) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.6.198" (CONF:23022).
4. SHALL contain exactly one [1..1] participant (CONF:23023) such that it
   1. SHALL contain exactly one [1..1] @typeCode="LOC" Location (CodeSystem: HL7ParticipationType 2.16.840.1.113883.5.90 STATIC) (CONF:23024).
   2. SHALL contain exactly one [1..1] participantRole (CONF:23025).
      1. This participantRole SHALL contain exactly one [1..1] @classCode="SDLOC" Service Delivery Location (CodeSystem: EntityClass 2.16.840.1.113883.5.41 STATIC) (CONF:23026).
      2. If recording data from an in-facility location, the participantRole element shall contain an id element with both @root and @extension, and a code element where the value is selected from ValueSet 2.16.840.1.113883.13.19NHSNHealthcareServiceLocationCode DYNAMIC,  recording the type of location (CONF:23027).
      3. Or, if recording data from the whole facility, the participantRole element shall contain an id element with @root (CONF:23028).
      4. Or, if recording data from a specialized subset of a facility, the participantRole element shall contain a code element where the value is selected from ValueSet 2.16.840.1.113883.13.19 NHSNHealthcareServiceLocationCode DYNAMIC,  recording the type of location, and a scopingEntity element where the value of @classCode is “PLC” and id/@root is present (CONF:23029).
5. SHALL contain exactly one [1..1] participant (CONF:23030) such that it
   1. SHALL contain exactly one [1..1] @typeCode="CSM" Consumable (CodeSystem: HL7ParticipationType 2.16.840.1.113883.5.90) (CONF:23031).
   2. SHALL contain exactly one [1..1] participantRole (CONF:23032).
      1. This participantRole MAY contain zero or one [0..1] @classCode="MANU" (CodeSystem: RoleClass 2.16.840.1.113883.5.110) (CONF:23033).
      2. This participantRole SHALL contain exactly one [1..1] code, which SHALL be selected from ValueSet [NHSNAntimicrobialAgentAURPCode](#NHSNAntimicrobialAgentAURPCode) 2.16.840.1.114222.4.11.3360 DYNAMIC (CONF:23034).
6. SHALL contain exactly one [1..1] entryRelationship (CONF:23036) such that it
   1. SHALL contain exactly one [1..1] @typeCode="COMP" Has component (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002 STATIC) (CONF:23037).
   2. SHALL contain exactly one [1..1] [Summary Data Observation](#E_Summary_Data_Observation) (identifier: oid:2.16.840.1.113883.10.20.5.6.185) (CONF:23038).
   3. This Summary Data element records Number of Therapy Days for the antimicrobial (this is not a simple total of the stratified data; consult the NHSN protocol for the calculation) (CONF:23039).
7. SHALL contain [4..4] entryRelationship (CONF:23040) such that it
   1. SHALL contain exactly one [1..1] @typeCode="COMP" (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002) (CONF:23041).
   2. SHALL contain exactly one [1..1] [Summary Data Observation (AUP)](#E_Summary_Data_Observation_AUP) (identifier: oid:2.16.840.1.113883.10.20.5.6.194) (CONF:23042).
   3. These Summary Data elements record Number of Therapy Days for the antimicrobial stratified by route of actual administration (four observations, one for each route) (CONF:23043).

Figure 110: Summary Encounter (AUP) Example

<!-- encounter reporting data for one antimicrobial -->

<encounter classCode="ENC" moodCode="EVN">

<templateId root="2.16.840.1.113883.10.20.5.6.198"/>

<!-- the location ID and type -->

<participant typeCode="LOC">

...

</participant>

<!-- the antimicrobial agent reported -->

<participant typeCode="CSM">

<participantRole classCode="MANU">

<code codeSystem="2.16.840.1.113883.6.88"

codeSystemName="RxNorm"

code="7980"

displayName="Penicillin G"/>

</participantRole>

</participant>

<!-- five data observations -->

<entryRelationship typeCode="COMP">

<observation classCode="OBS" moodCode="EVN">

<!-- Summary Data Observation -->

<templateId root="2.16.840.1.113883.10.20.5.6.185"/>

<code codeSystem="2.16.840.1.113883.6.277"

codeSystemName="cdcNHSN"

code="2524-7"

displayName="Number of Therapy Days"/>

<statusCode code="completed"/>

<value xsi:type="PQ" unit="d" value="36"/>

<!-- use this when recording the four stratified data

<methodCode codeSystem="2.16.840.1.113883.6.96"

codeSystemName="SNOMED CT"

code="47625008"

displayName="Intravenous route" />

-->

</observation>

</entryRelationship>

<!-- ... four more observations here -->

<entryRelationship typeCode="COMP">

<observation classCode="OBS" moodCode="EVN">

<!-- Summary Data Observation (AUP) -->

<templateId root="2.16.840.1.113883.10.20.5.6.194"/>

...

</observation>

</entryRelationship>

</encounter>

<!-- end of encounter for this antimicrobial -->

Summary Encounter (NICU)

[encounter: identifier oid:2.16.840.1.113883.10.20.5.6.191 (closed)]

Table 283: Summary Encounter (NICU) Contexts

| Contained By: | Contains: |
| --- | --- |
| [Summary Data Section (NICU)](#S_Summary_Data_Section_NICU) (required) | [Summary Data Observation](#E_Summary_Data_Observation) |

This Summary Encounter records a set of summary data, usually for a population such as the patients in a ward in a specified period. The NHSN protocol defines which data to record for each type of summary report.  Each datum is recorded as a Summary Data Observation.

In a NICU Report, the data are stratified by birthweight. A second participant is provided to record the participant subgroup. Represent each group with a separate Summary Encounter.

Table 284: Summary Encounter (NICU) Constraints Overview

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| XPath | Card. | Verb | Data Type | CONF# | Value |
| encounter (identifier: oid:2.16.840.1.113883.10.20.5.6.191) | | | | | |
| @classCode | 1..1 | SHALL |  | [22817](#C_22817) | 2.16.840.1.113883.5.6 (HL7ActClass) = ENC |
| @moodCode | 1..1 | SHALL |  | [22818](#C_22818) | 2.16.840.1.113883.5.1001 (ActMood) = EVN |
| templateId | 1..1 | SHALL |  | [22819](#C_22819) |  |
| @root | 1..1 | SHALL |  | [22820](#C_22820) | 2.16.840.1.113883.10.20.5.6.191 |
| participant | 1..1 | SHALL |  | [22821](#C_22821) |  |
| @typeCode | 1..1 | SHALL |  | [22822](#C_22822) | 2.16.840.1.113883.5.90 (HL7ParticipationType) = LOC |
| participantRole | 1..1 | SHALL |  | [22823](#C_22823) |  |
| @classCode | 1..1 | SHALL |  | [22824](#C_22824) | 2.16.840.1.113883.5.41 (EntityClass) = SDLOC |
| participant | 1..1 | SHALL |  | [22828](#C_22828) |  |
| @typeCode | 1..1 | SHALL |  | [22829](#C_22829) | 2.16.840.1.113883.5.90 (HL7ParticipationType) = SBJ |
| participantRole | 1..1 | SHALL |  | [22830](#C_22830) |  |
| @classCode | 1..1 | SHALL |  | [22831](#C_22831) | 2.16.840.1.113883.5.41 (EntityClass) = PRS |
| code | 1..1 | SHALL |  | [22832](#C_22832) | 2.16.840.1.114222.4.11.3234 (NHSNPopulationCategoryCode) |
| entryRelationship | 1..\* | SHALL |  | [22834](#C_22834) |  |
| @typeCode | 1..1 | SHALL |  | [22835](#C_22835) | 2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = COMP |
| observation | 1..1 | SHALL |  | [22836](#C_22836) | [Summary Data Observation (identifier: oid:2.16.840.1.113883.10.20.5.6.185](#E_Summary_Data_Observation) |

1. SHALL contain exactly one [1..1] @classCode="ENC" Encounter (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 STATIC) (CONF:22817).
2. SHALL contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 STATIC) (CONF:22818).
3. SHALL contain exactly one [1..1] templateId (CONF:22819) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.6.191" (CONF:22820).
4. SHALL contain exactly one [1..1] participant (CONF:22821) such that it
   1. SHALL contain exactly one [1..1] @typeCode="LOC" Location (CodeSystem: HL7ParticipationType 2.16.840.1.113883.5.90 STATIC) (CONF:22822).
   2. SHALL contain exactly one [1..1] participantRole (CONF:22823).
      1. This participantRole SHALL contain exactly one [1..1] @classCode="SDLOC" Service Delivery Location (CodeSystem: EntityClass 2.16.840.1.113883.5.41 STATIC) (CONF:22824).
      2. If recording data from an in-facility location, the participantRole element shall contain an id element with both @root and @extension, and a code element where the value is selected from ValueSet NHSNHealthcareServiceLocationCode 2.16.840.1.113883.13.19 DYNAMIC, recording the type of location (CONF:22825).
      3. Or, if recording data from the whole facility, the participantRole element shall contain an id element with @root (CONF:22826).
      4. Or, if recording data from a specialized subset of a facility, the participantRole element shall contain a code element where the value is selected from ValueSet NHSNHealthcareServiceLocationCode 2.16.840.1.113883.13.19 DYNAMIC, recording the type of location, and a scopingEntity element where the value of @classCode is “PLC” and id/@root is present (CONF:22827).
5. SHALL contain exactly one [1..1] participant (CONF:22828) such that it
   1. SHALL contain exactly one [1..1] @typeCode="SBJ" (CodeSystem: HL7ParticipationType 2.16.840.1.113883.5.90) (CONF:22829).
   2. SHALL contain exactly one [1..1] participantRole (CONF:22830).
      1. This participantRole SHALL contain exactly one [1..1] @classCode="PRS" (CodeSystem: EntityClass 2.16.840.1.113883.5.41) (CONF:22831).
      2. This participantRole SHALL contain exactly one [1..1] code, which SHALL be selected from ValueSet [NHSNPopulationCategoryCode](#NHSNPopulationCategoryCode) 2.16.840.1.114222.4.11.3234 STATIC 2009-06-25 (CONF:22832).
6. SHALL contain at least one [1..\*] entryRelationship (CONF:22834).
   1. Such entryRelationships SHALL contain exactly one [1..1] @typeCode="COMP" Has component (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002 STATIC) (CONF:22835).
   2. Such entryRelationships SHALL contain exactly one [1..1] [Summary Data Observation](#E_Summary_Data_Observation) (identifier: oid:2.16.840.1.113883.10.20.5.6.185) (CONF:22836).

Table 285: NHSNPopulationCategoryCode

|  |  |  |  |
| --- | --- | --- | --- |
| Value Set: NHSNPopulationCategoryCode 2.16.840.1.114222.4.11.3234  Code System: cdcNHSN 2.16.840.1.113883.6.277 | | | |
| Code | Code System | Code System OID | Print Name |
| 3300-1 | cdcNHSN | 2.16.840.1.113883.6.277 | Birthweight under 750gm |
| 3301-9 | cdcNHSN | 2.16.840.1.113883.6.277 | Birthweight 751-1000gm |
| 3302-7 | cdcNHSN | 2.16.840.1.113883.6.277 | Birthweight 1001-1500gm |
| 3303-5 | cdcNHSN | 2.16.840.1.113883.6.277 | Birthweight 1501-2500gm |
| 3304-3 | cdcNHSN | 2.16.840.1.113883.6.277 | Birthweight over 2500gm |

Figure 111: Summary Encounter (NICU) Example

<encounter classCode="ENC" moodCode="EVN">

<templateId root="2.16.840.1.113883.10.20.5.6.191" />

<!-- the location id and type -->

<participant typeCode="LOC">

<participantRole classCode="SDLOC">

<id root="2.16.840.1.113883.3.117.1.1.5.1.1" extension="9W" />

<code codeSystem="2.16.840.1.113883.6.259"

codeSystemName="HL7 Healthcare Service Location Code"

code="1029-8"

displayName="Medical/Surgical Critical Care" />

</participantRole>

</participant>

<!-- This encounter reports on a subset of the total group -->

<participant typeCode="SBJ" contextControlCode="OP">

<participantRole classCode="PRS">

<code codeSystem="2.16.840.1.113883.6.277"

codeSystemName="cdcNHSN"

code="3300-1"

displayName="Birthweight under 750g" />

</participantRole>

</participant>

<entryRelationship typeCode="COMP">

<observation classCode="OBS" moodCode="EVN">

<templateId root="2.16.840.1.113883.10.20.5.6.185" />

<code codeSystem="2.16.840.1.113883.6.277"

codeSystemName="cdcNHSN"

code="1851-5"

displayName="Patient Days" />

<statusCode code="completed" />

<value xsi:type="PQ" unit="d" value="23" />

</observation>

</entryRelationship>

<entryRelationship typeCode="COMP">

<observation classCode="OBS" moodCode="EVN">

<templateId root="2.16.840.1.113883.10.20.5.6.185" />

<code codeSystem="2.16.840.1.113883.6.270"

codeSystemName="cdcNHSN"

code="1852-3"

displayName="Ventilator Days" />

<statusCode code="completed" />

<value xsi:type="PQ" unit="d" value="5" />

</observation>

</entryRelationship>

<entryRelationship typeCode="COMP">

<observation classCode="OBS" moodCode="EVN">

<templateId root="2.16.840.1.113883.10.20.5.6.185" />

<code codeSystem="2.16.840.1.113883.6.277"

codeSystemName="cdcNHSN"

code="1854-9"

displayName="Number of central line days including umbilical catheter" />

<statusCode code="completed" />

<value xsi:type="PQ" unit="d" value="5" />

</observation>

</entryRelationship>

<entryRelationship typeCode="COMP">

<observation classCode="OBS" moodCode="EVN">

<templateId root="2.16.840.1.113883.10.20.5.6.185" />

<code codeSystem="2.16.840.1.113883.6.277"

codeSystemName="cdcNHSN"

code="1854-9"

displayName="Central Line Days including umbilical catheter" />

<statusCode code="completed" />

<value xsi:type="PQ" unit="d" value="5" />

</observation>

</entryRelationship>

</encounter>

Summary Encounter (POM)

[encounter: identifier oid:2.16.840.1.113883.10.20.5.6.193 (closed)]

Table 286: Summary Encounter (POM) Contexts

| Contained By: | Contains: |
| --- | --- |
| [Summary Data Section (POM)](#S_Summary_Data_Section_POM) (required) | [Summary Data Observation (POM)](#E_Summary_Data_Observation_POM) |

This Summary Encounter is specific to the POM Report; it contains one or more Summary Data Observations (POM).

The POM Report records summary data for a location during a specified period. It can be submitted at the facility-wide level or at the unit level.

   •  In either case, the data reported is Number of Patient Days and Number of Admissions, or Number of Encounters (as appropriate for an inpatient location or an outpatient location).

   •  In a facility-level report, if the facility includes reporting for C.difficile at the facility-wide level in its monthly plan, data adjusted for C.difficile reporting are required; see the NHSN protocol for definitions and calculations.

   •  In a unit-level report, NHSN protocol allows (but does not require) data about adherence measures and AST outcome measures.

Table 287: Summary Encounter (POM) Constraints Overview

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| XPath | Card. | Verb | Data Type | CONF# | Value |
| encounter (identifier: oid:2.16.840.1.113883.10.20.5.6.193) | | | | | |
| @classCode | 1..1 | SHALL |  | [22866](#C_22866) | 2.16.840.1.113883.5.6 (HL7ActClass) = ENC |
| @moodCode | 1..1 | SHALL |  | [22867](#C_22867) | 2.16.840.1.113883.5.1001 (ActMood) = EVN |
| templateId | 1..1 | SHALL |  | [22868](#C_22868) |  |
| @root | 1..1 | SHALL |  | [22869](#C_22869) | 2.16.840.1.113883.10.20.5.6.193 |
| participant | 1..1 | SHALL |  | [22870](#C_22870) |  |
| @typeCode | 1..1 | SHALL |  | [22871](#C_22871) | 2.16.840.1.113883.5.90 (HL7ParticipationType) = LOC |
| participantRole | 1..1 | SHALL |  | [22872](#C_22872) |  |
| @classCode | 1..1 | SHALL |  | [22873](#C_22873) | 2.16.840.1.113883.5.41 (EntityClass) = SDLOC |
| entryRelationship | 1..\* | SHALL |  | [22877](#C_22877) |  |
| @typeCode | 1..1 | SHALL |  | [22878](#C_22878) | 2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = COMP |
| observation | 1..1 | SHALL |  | [22879](#C_22879) | [Summary Data Observation (POM) (identifier: oid:2.16.840.1.113883.10.20.5.6.192](#E_Summary_Data_Observation_POM) |

1. SHALL contain exactly one [1..1] @classCode="ENC" Encounter (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 STATIC) (CONF:22866).
2. SHALL contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 STATIC) (CONF:22867).
3. SHALL contain exactly one [1..1] templateId (CONF:22868) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.6.193" (CONF:22869).
4. SHALL contain exactly one [1..1] participant (CONF:22870) such that it
   1. SHALL contain exactly one [1..1] @typeCode="LOC" Location (CodeSystem: HL7ParticipationType 2.16.840.1.113883.5.90 STATIC) (CONF:22871).
   2. SHALL contain exactly one [1..1] participantRole (CONF:22872).
      1. This participantRole SHALL contain exactly one [1..1] @classCode="SDLOC" Service Delivery Location (CodeSystem: EntityClass 2.16.840.1.113883.5.41 STATIC) (CONF:22873).
      2. If recording data from an in-facility location, the participantRole element shall contain an id element with both @root and @extension, and a code element where the value is selected from ValueSet NHSNHealthcareServiceLocationCode 2.16.840.1.113883.13.19 DYNAMIC, recording the type of location (CONF:22874).
      3. Or, if recording data from the whole facility, the participantRole element shall contain an id element with @root (CONF:22875).
      4. Or, if recording data from a specialized subset of a facility, the participantRole element shall contain a code element where the value is selected from ValueSet NHSNHealthcareServiceLocationCode 2.16.840.1.113883.13.19 DYNAMIC, recording the type of location, and a scopingEntity element where the value of @classCode is “PLC” and id/@root is present (CONF:22876).
5. SHALL contain at least one [1..\*] entryRelationship (CONF:22877).
   1. Such entryRelationships SHALL contain exactly one [1..1] @typeCode="COMP" Has component (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002 STATIC) (CONF:22878).
   2. Such entryRelationships SHALL contain exactly one [1..1] [Summary Data Observation (POM)](#E_Summary_Data_Observation_POM) (identifier: oid:2.16.840.1.113883.10.20.5.6.192) (CONF:22879).

Figure 112: Summary Encounter (POM) Example

<encounter classCode="ENC" moodCode="EVN">

<!-- Summary Encounter (POM) -->

<templateId root="2.16.840.1.113883.10.20.5.6.193" />

<!-- the location id and type -->

<participant typeCode="LOC">

<participantRole classCode="SDLOC">

<id root="2.16.840.1.113883.3.117.1.1.5.1.1" extension="9W" />

<code codeSystem="2.16.840.1.113883.6.259"

codeSystemName="HL7 Healthcare Service Location Code"

code="1029-8"

displayName="Medical/Surgical Critical Care" />

</participantRole>

</participant>

<!-- Number of inpatient days -->

<entryRelationship typeCode="COMP">

<observation classCode="OBS" moodCode="EVN">

<!-- Summary Data Observation POM -->

<templateId root="2.16.840.1.113883.10.20.5.6.192" />

…

</observation>

</entryRelationship>

<!-- Number of admissions -->

<entryRelationship typeCode="COMP">

<observation classCode="OBS" moodCode="EVN">

<!-- Summary Data Observation POM -->

<templateId root="2.16.840.1.113883.10.20.5.6.192" />

...

</observation>

</entryRelationship>

<!-- If the report is facility-wide, inpatient, NHSN requires

two additional observations here, constructed as above

but with different codes:

1830-9 Number of Patient Days as adjusted for C.Diff reporting

1831-7 Number of Admissions as adjusted for C.Diff reporting

If the report is facility-wide, outpatient, NHSN requires

one additional observation here, constructed as above

but with a different code:

1832-5 Number of Encounters as calculated for C.Diff reporting

If the report is not facility-wide, NHSN will collect

but does not require the surveillance details shown below. -->

<!-- Number hand hygiene indicated -->

<entryRelationship typeCode="COMP">

<observation classCode="OBS" moodCode="EVN">

<!-- Summary Data Observation POM -->

<templateId root="2.16.840.1.113883.10.20.5.6.192" />

...

</observation>

</entryRelationship>

<!-- Number hand hygiene performed -->

<entryRelationship typeCode="COMP">

<observation classCode="OBS" moodCode="EVN">

<!-- Summary Data Observation POM -->

<templateId root="2.16.840.1.113883.10.20.5.6.192" />

...

</observation>

</entryRelationship>

<!-- Number gown and gloves indicated -->

<entryRelationship typeCode="COMP">

<observation classCode="OBS" moodCode="EVN">

<!-- Summary Data Observation POM -->

...

</observation>

</entryRelationship>

<!-- Number gown and gloves used -->

<entryRelationship typeCode="COMP">

<observation classCode="OBS" moodCode="EVN">

<!-- Summary Data Observation POM -->

<templateId root="2.16.840.1.113883.10.20.5.6.192" />

...

</observation>

</entryRelationship>

<!-- MRSA was monitored -->

<entryRelationship typeCode="COMP" negationInd="false">

<observation classCode="OBS" moodCode="EVN">

<!-- Summary Data Observation POM -->

<templateId root="2.16.840.1.113883.10.20.5.6.192" />

...

</observation>

</entryRelationship>

<!-- end of AST for MRSA data -->

</encounter>

Summary Encounter

[encounter: identifier oid:2.16.840.1.113883.10.20.5.6.184 (closed)]

Table 288: Summary Encounter Contexts

| Contained By: | Contains: |
| --- | --- |
| [Summary Data Section](#S_Summary_Data_Section) (required) | [Summary Data Observation](#E_Summary_Data_Observation) |

The Summary Encounter records a set of summary data, usually for a population such as the patients in a ward in a specified period. The NHSN protocol defines which data to record for each type of summary report.  Each datum is recorded as a Summary Data Observation.  The data requirements at time of publication are shown in tables under the Summary Data Observation template, above. For example, the table Codes for Intensive Care (ICU) Summary Data shows that four data are required: Number of Patient Days, Number of Central Line Days, Number of Urinary Catheter Days, Number of Ventilator Days, Number of APRV days and Number of New Episodes of Mechanical Ventilation. Thus, the Summary Encounter for an ICU ward will contain four Summary Data Observations.

A participant element records the location to which the data pertains. It has three parts: a location id, a location type code, and a scoping entity.  The location id has the form <id root=”…” extension=”…”/> representing a location such as ward 9W, or <id root=”…”/> representing the whole facility. The scoping entity is optional if an id is present. However, specialized subsets of the facility such as “the whole facility excluding NICU and well-baby units” have no NHSN location id, and the scopingEntity is required in those cases.

Table 289: Summary Encounter Constraints Overview

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| XPath | Card. | Verb | Data Type | CONF# | Value |
| encounter (identifier: oid:2.16.840.1.113883.10.20.5.6.184) | | | | | |
| @classCode | 1..1 | SHALL |  | [22392](#C_22392) | 2.16.840.1.113883.5.6 (HL7ActClass) = ENC |
| @moodCode | 1..1 | SHALL |  | [22393](#C_22393) | 2.16.840.1.113883.5.1001 (ActMood) = EVN |
| templateId | 1..1 | SHALL |  | [22394](#C_22394) |  |
| @root | 1..1 | SHALL |  | [22395](#C_22395) | 2.16.840.1.113883.10.20.5.6.184 |
| participant | 1..1 | SHALL |  | [22397](#C_22397) |  |
| @typeCode | 1..1 | SHALL |  | [22398](#C_22398) | 2.16.840.1.113883.5.90 (HL7ParticipationType) = LOC |
| participantRole | 1..1 | SHALL |  | [22399](#C_22399) |  |
| @classCode | 1..1 | SHALL |  | [22400](#C_22400) | 2.16.840.1.113883.5.41 (EntityClass) = SDLOC |
| entryRelationship | 1..\* | SHALL |  | [22404](#C_22404) |  |
| @typeCode | 1..1 | SHALL |  | [22405](#C_22405) | 2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = COMP |
| observation | 1..1 | SHALL |  | [22406](#C_22406) | [Summary Data Observation (identifier: oid:2.16.840.1.113883.10.20.5.6.185](#E_Summary_Data_Observation) |

1. SHALL contain exactly one [1..1] @classCode="ENC" Encounter (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 STATIC) (CONF:22392).
2. SHALL contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 STATIC) (CONF:22393).
3. SHALL contain exactly one [1..1] templateId (CONF:22394) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.6.184" (CONF:22395).
4. SHALL contain exactly one [1..1] participant (CONF:22397) such that it
   1. SHALL contain exactly one [1..1] @typeCode="LOC" Location (CodeSystem: HL7ParticipationType 2.16.840.1.113883.5.90 STATIC) (CONF:22398).
   2. SHALL contain exactly one [1..1] participantRole (CONF:22399).
      1. This participantRole SHALL contain exactly one [1..1] @classCode="SDLOC" Service Delivery Location (CodeSystem: EntityClass 2.16.840.1.113883.5.41 STATIC) (CONF:22400).
      2. If recording data from an in-facility location, the participantRole element shall contain an id element with both @root and @extension, and a code element where the value is selected from ValueSet NHSNHealthcareServiceLocationCode 2.16.840.1.113883.13.19 DYNAMIC, recording the type of location (CONF:22401).
      3. Or, if recording data from the whole facility, the participantRole element shall contain an id element with @root (CONF:22402).
      4. Or, if recording data from a specialized subset of a facility, the participantRole element shall contain a code element where the value is selected from ValueSet NHSNHealthcareServiceLocationCode 2.16.840.1.113883.13.19 DYNAMIC, recording the type of location, and a scopingEntity element where the value of @classCode is “PLC” and id/@root is present (CONF:22403).
5. SHALL contain at least one [1..\*] entryRelationship (CONF:22404).
   1. Such entryRelationships SHALL contain exactly one [1..1] @typeCode="COMP" Has component (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002 STATIC) (CONF:22405).
   2. Such entryRelationships SHALL contain exactly one [1..1] [Summary Data Observation](#E_Summary_Data_Observation) (identifier: oid:2.16.840.1.113883.10.20.5.6.185) (CONF:22406).

Figure 113: Summary Encounter Example

<encounter classCode="ENC" moodCode="EVN">

<templateId root="2.16.840.1.113883.10.20.5.6.184" />

<!-- the in-facility location ID and type -->

<participant typeCode="LOC">

<participantRole classCode="SDLOC">

<!-- the facility OID scopes the in-facility location ID -->

<id root="2.16.840.1.113883.3.117.1.1.5.1.1" extension="9W" />

<code codeSystem="2.16.840.1.113883.6.259"

codeSystemName="HL7 Healthcare Service Location Code"

code="1029-8"

displayName="Medical/Surgical Critical Care" />

</participantRole>

</participant>

<!-- Patient Days -->

<entryRelationship typeCode="COMP">

<observation classCode="OBS" moodCode="EVN">

<templateId root="2.16.840.1.113883.10.20.5.6.185" />

...

</observation>

</entryRelationship>

<!-- Central Line Days -->

<entryRelationship typeCode="COMP">

<observation classCode="OBS" moodCode="EVN">

<templateId root="2.16.840.1.113883.10.20.5.6.185" />

...

</observation>

</entryRelationship>

...

</entryRelationship>

</encounter>

Summary Encounter (VAT)

[encounter: identifier oid:2.16.840.1.113883.10.20.5.6.196 (closed)]

Table 290: Summary Encounter (VAT) Contexts

| Contained By: | Contains: |
| --- | --- |
| [Summary Data Section (VAT)](#S_Summary_Data_Section_VAT) (required) | [Summary Data Observation (VAT)](#E_Summary_Data_Observation_VAT) |

The Summary Encounter records a set of summary data, usually for a population such as the patients in a ward in a specified period. The NHSN protocol defines which data to record for each type of summary report.  Each datum is recorded as a Summary Data Observation.  The data requirements at time of publication are shown in tables under the Summary Data Observation template, above.

A participant element records the location to which the data pertains. It has three parts: a location id, a location type code, and a scoping entity.  The location id has the form <id root=”…” extension=”…”/> representing a location such as ward 9W, or <id root=”…”/> representing the whole facility.

Table 291: Summary Encounter (VAT) Constraints Overview

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| XPath | Card. | Verb | Data Type | CONF# | Value |
| encounter (identifier: oid:2.16.840.1.113883.10.20.5.6.196) | | | | | |
| @classCode | 1..1 | SHALL |  | [22951](#C_22951) | 2.16.840.1.113883.5.6 (HL7ActClass) = ENC |
| @moodCode | 1..1 | SHALL |  | [22952](#C_22952) | 2.16.840.1.113883.5.1001 (ActMood) = EVN |
| templateId | 1..1 | SHALL |  | [22953](#C_22953) |  |
| @root | 1..1 | SHALL |  | [22954](#C_22954) | 2.16.840.1.113883.10.20.5.6.196 |
| participant | 1..1 | SHALL |  | [22955](#C_22955) |  |
| @typeCode | 1..1 | SHALL |  | [22956](#C_22956) | 2.16.840.1.113883.5.90 (HL7ParticipationType) = LOC |
| participantRole | 1..1 | SHALL |  | [22957](#C_22957) |  |
| @classCode | 1..1 | SHALL |  | [22958](#C_22958) | 2.16.840.1.113883.5.41 (EntityClass) = SDLOC |
| entryRelationship | 1..\* | SHALL |  | [22962](#C_22962) |  |
| @typeCode | 1..1 | SHALL |  | [22963](#C_22963) | 2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = COMP |
| observation | 1..1 | SHALL |  | [22964](#C_22964) | [Summary Data Observation (VAT) (identifier: oid:2.16.840.1.113883.10.20.5.6.195](#E_Summary_Data_Observation_VAT) |

1. SHALL contain exactly one [1..1] @classCode="ENC" Encounter (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 STATIC) (CONF:22951).
2. SHALL contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 STATIC) (CONF:22952).
3. SHALL contain exactly one [1..1] templateId (CONF:22953) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.6.196" (CONF:22954).
4. SHALL contain exactly one [1..1] participant (CONF:22955) such that it
   1. SHALL contain exactly one [1..1] @typeCode="LOC" Location (CodeSystem: HL7ParticipationType 2.16.840.1.113883.5.90 STATIC) (CONF:22956).
   2. SHALL contain exactly one [1..1] participantRole (CONF:22957).
      1. This participantRole SHALL contain exactly one [1..1] @classCode="SDLOC" Service Delivery Location (CodeSystem: EntityClass 2.16.840.1.113883.5.41 STATIC) (CONF:22958).
      2. If recording data from an in-facility location, the participantRole element shall contain an id element with both @root and @extension, and a code element where the value is selected from ValueSet NHSNHealthcareServiceLocationCode 2.16.840.1.113883.13.19 DYNAMIC, recording the type of location (CONF:22959).
      3. Or, if recording data from the whole facility, the participantRole element shall contain an id element with @root (CONF:22960).
      4. Or, if recording data from a specialized subset of a facility, the participantRole element shall contain a code element where the value is selected from ValueSet NHSNHealthcareServiceLocationCode 2.16.840.1.113883.13.19 DYNAMIC, recording the type of location, and a scopingEntity element where the value of @classCode is “PLC” and id/@root is present (CONF:22961).
5. SHALL contain at least one [1..\*] entryRelationship (CONF:22962).
   1. Such entryRelationships SHALL contain exactly one [1..1] @typeCode="COMP" Has component (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002 STATIC) (CONF:22963).
   2. Such entryRelationships SHALL contain exactly one [1..1] [Summary Data Observation (VAT)](#E_Summary_Data_Observation_VAT) (identifier: oid:2.16.840.1.113883.10.20.5.6.195) (CONF:22964).

Figure 114: Summary Encounter (VAT) Example

<encounter classCode="ENC" moodCode="EVN">

<!-- Summary Encounter (VAT) template -->

<templateId root="2.16.840.1.113883.10.20.5.6.196" />

<!-- the in-facility location ID and type -->

<participant typeCode="LOC">

<participantRole classCode="SDLOC">

<!-- the facility OID scopes the in-facility location ID -->

<id root="2.16.840.1.113883.3.117.1.1.5.1.1" extension="9W" />

<code codeSystem="2.16.840.1.113883.6.259"

codeSystemName="HL7 Healthcare Service Location Code"

code="1153-6"

displayName="Outpatient Hemodialysis Clinic" />

</participantRole>

</participant>

<!-- Number of Chronic Hemodialysis Patients, vascular access type is fistula -->

<entryRelationship typeCode="COMP">

<observation classCode="OBS" moodCode="EVN">

<templateId root="2.16.840.1.113883.10.20.5.6.195" />

...

</observation>

</entryRelationship>

...

</encounter>

Summary Encounter Patient Presence (AUP)

[encounter: identifier oid:2.16.840.1.113883.10.20.5.6.197 (closed)]

Table 292: Summary Encounter Patient Presence (AUP) Contexts

| Contained By: | Contains: |
| --- | --- |
| [Summary Data Section (AUP)](#S_Summary_Data_Section_AUP) (required) | [Summary Data Observation](#E_Summary_Data_Observation) |

NHSN reporting requires:

   •  If the reporting location is a single unit such as a ward, Number of Patient-Present Days, or

   •  If the encounter location is facility-wide rather than a single unit, Number of Admissions and Number of Patient-present Days.

Table 293: Summary Encounter Patient Presence (AUP) Constraints Overview

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| XPath | Card. | Verb | Data Type | CONF# | Value |
| encounter (identifier: oid:2.16.840.1.113883.10.20.5.6.197) | | | | | |
| @classCode | 1..1 | SHALL |  | [22995](#C_22995) | 2.16.840.1.113883.5.6 (HL7ActClass) = ENC |
| @moodCode | 1..1 | SHALL |  | [22996](#C_22996) | 2.16.840.1.113883.5.1001 (ActMood) = EVN |
| templateId | 1..1 | SHALL |  | [22997](#C_22997) |  |
| @root | 1..1 | SHALL |  | [22998](#C_22998) | 2.16.840.1.113883.10.20.5.6.197 |
| participant | 1..1 | SHALL |  | [22999](#C_22999) |  |
| @typeCode | 1..1 | SHALL |  | [23000](#C_23000) | 2.16.840.1.113883.5.90 (HL7ParticipationType) = LOC |
| participantRole | 1..1 | SHALL |  | [23001](#C_23001) |  |
| @classCode | 1..1 | SHALL |  | [23002](#C_23002) | 2.16.840.1.113883.5.41 (EntityClass) = SDLOC |
| entryRelationship | 1..\* | SHALL |  | [23006](#C_23006) |  |
| @typeCode | 1..1 | SHALL |  | [23007](#C_23007) | 2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = COMP |
| observation | 1..1 | SHALL |  | [23008](#C_23008) | [Summary Data Observation (identifier: oid:2.16.840.1.113883.10.20.5.6.185](#E_Summary_Data_Observation) |

1. SHALL contain exactly one [1..1] @classCode="ENC" Encounter (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 STATIC) (CONF:22995).
2. SHALL contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 STATIC) (CONF:22996).
3. SHALL contain exactly one [1..1] templateId (CONF:22997) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.6.197" (CONF:22998).
4. SHALL contain exactly one [1..1] participant (CONF:22999) such that it
   1. SHALL contain exactly one [1..1] @typeCode="LOC" Location (CodeSystem: HL7ParticipationType 2.16.840.1.113883.5.90 STATIC) (CONF:23000).
   2. SHALL contain exactly one [1..1] participantRole (CONF:23001).
      1. This participantRole SHALL contain exactly one [1..1] @classCode="SDLOC" Service Delivery Location (CodeSystem: EntityClass 2.16.840.1.113883.5.41 STATIC) (CONF:23002).
      2. If recording data from an in-facility location, the participantRole element shall contain an id element with both @root and @extension, and a code element where the value is selected from ValueSet 2.16.840.1.113883.13.19NHSNHealthcareServiceLocationCode DYNAMIC,  recording the type of location (CONF:23003).
      3. Or, if recording data from the whole facility, the participantRole element shall contain an id element with @root (CONF:23004).
      4. Or, if recording data from a specialized subset of a facility, the participantRole element shall contain a code element where the value is selected from ValueSet 2.16.840.1.113883.13.19 NHSNHealthcareServiceLocationCode DYNAMIC,  recording the type of location, and a scopingEntity element where the value of @classCode is “PLC” and id/@root is present (CONF:23005).
5. SHALL contain at least one [1..\*] entryRelationship (CONF:23006).
   1. Such entryRelationships SHALL contain exactly one [1..1] @typeCode="COMP" Has component (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002 STATIC) (CONF:23007).
   2. Such entryRelationships SHALL contain exactly one [1..1] [Summary Data Observation](#E_Summary_Data_Observation) (identifier: oid:2.16.840.1.113883.10.20.5.6.185) (CONF:23008).
6. This Summary Encounter SHALL contain a Summary Data element that records Number of Patient-present Days for the reporting location (CONF:23011).
7. If the reporting location is facility-wide inpatient units, this Summary Encounter SHALL contain a second Summary Data element that records Number of Admissions (CONF:23012).

Figure 115: Summary Encounter Patient Presence (AUP) Example

<!-- encounter recording patient presence -->

<encounter classCode="ENC" moodCode="EVN">

<templateId root="2.16.840.1.113883.10.20.5.6.197" />

<!-- the location ID and type -->

<participant typeCode="LOC">

<participantRole classCode="SDLOC">

<id root="2.16.840.1.113883.3.117.1.1.5.1.1" extension="9W" />

<code codeSystem="2.16.840.1.113883.6.259"

codeSystemName="HL7 Healthcare Service Location Code"

code="1029-8"

displayName="Medical/Surgical Critical Care" />

</participantRole>

</participant>

<!-- report for a single unit: Number of Patient-present Days -->

<entryRelationship typeCode="COMP">

<observation classCode="OBS" moodCode="EVN">

<templateId root="2.16.840.1.113883.10.20.5.6.185" />

...

</observation>

</entryRelationship>

<!-- if the reporting location is facility-wide inpatient units,

a second observation recording Number of Admissions -->

</encounter>

Suspected Source Observation

[observation: identifier oid:2.16.840.1.113883.10.20.5.6.168 (closed)]

Table 294: Suspected Source Observation Contexts

| Contained By: | Contains: |
| --- | --- |
| [Positive Blood Culture Observation](#E_Positive_Blood_Culture_Observation) (required) | [Imputability Observation](#E_Imputability_Observation) |

This observation records a suspected source of a finding.

This observation and its value set are used in an Evidence of Infection (Dialysis) Report. It could be generalized for broader use.

Table 295: Suspected Source Observation Constraints Overview

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| XPath | Card. | Verb | Data Type | CONF# | Value |
| observation (identifier: oid:2.16.840.1.113883.10.20.5.6.168) | | | | | |
| @classCode | 1..1 | SHALL |  | [21508](#C_21508) | 2.16.840.1.113883.5.6 (HL7ActClass) = OBS |
| @moodCode | 1..1 | SHALL |  | [21509](#C_21509) | 2.16.840.1.113883.5.1001 (ActMood) = EVN |
| @negationInd | 1..1 | SHALL |  | [21510](#C_21510) | false |
| templateId | 1..1 | SHALL |  | [28287](#C_28287) |  |
| @root | 1..1 | SHALL |  | [28288](#C_28288) | 2.16.840.1.113883.10.20.22.4.4 |
| templateId | 1..1 | SHALL |  | [21528](#C_21528) |  |
| @root | 1..1 | SHALL |  | [21529](#C_21529) | 2.16.840.1.113883.10.20.5.6.168 |
| id | 1..1 | SHALL |  | [21530](#C_21530) |  |
| @nullFlavor | 1..1 | SHALL |  | [22741](#C_22741) | NA |
| code | 1..1 | SHALL |  | [21511](#C_21511) | 2.16.840.1.113883.5.4 (ActCode) = ASSERTION |
| @code | 1..1 | SHALL |  | [21512](#C_21512) | 2.16.840.1.113883.5.4 (ActCode) = ASSERTION |
| statusCode | 1..1 | SHALL |  | [21513](#C_21513) |  |
| @code | 1..1 | SHALL |  | [21514](#C_21514) | 2.16.840.1.113883.5.14 (ActStatus) = completed |
| value | 1..1 | SHALL | CD | [21515](#C_21515) |  |
| entryRelationship | 1..1 | SHALL |  | [21519](#C_21519) |  |
| @typeCode | 1..1 | SHALL |  | [21520](#C_21520) | 2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = COMP |
| observation | 1..1 | SHALL |  | [21521](#C_21521) | [Imputability Observation (identifier: oid:2.16.840.1.113883.10.20.5.6.134](#E_Imputability_Observation) |
| code | 1..1 | SHALL |  | [21522](#C_21522) |  |
| @code | 1..1 | SHALL | CD | [21523](#C_21523) | 2.16.840.1.113883.6.277 (cdcNHSN) = 2307-7 |
| value | 1..1 | SHALL |  | [21524](#C_21524) |  |
| @code | 1..1 | SHALL | CD | [21525](#C_21525) | 2.16.840.1.113883.6.96 (SNOMED CT) = 60022001 |

1. Conforms to Problem Observation template (identifier: oid:2.16.840.1.113883.10.20.22.4.4).
2. SHALL contain exactly one [1..1] @classCode="OBS" Observation (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 STATIC) (CONF:21508).
3. SHALL contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 STATIC) (CONF:21509).
4. SHALL contain exactly one [1..1] @negationInd="false" (CONF:21510).
5. SHALL contain exactly one [1..1] templateId (CONF:28287) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.4.4" (CONF:28288).
6. SHALL contain exactly one [1..1] templateId (CONF:21528) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.6.168" (CONF:21529).
7. SHALL contain exactly one [1..1] id (CONF:21530).
   1. This id SHALL contain exactly one [1..1] @nullFlavor="NA" (CONF:22741).
8. SHALL contain exactly one [1..1] code="ASSERTION" Assertion (CodeSystem: ActCode 2.16.840.1.113883.5.4 STATIC) (CONF:21511).
   1. This code SHALL contain exactly one [1..1] @code="ASSERTION" Assertion (CodeSystem: ActCode 2.16.840.1.113883.5.4 STATIC) (CONF:21512).
9. SHALL contain exactly one [1..1] statusCode (CONF:21513).
   1. This statusCode SHALL contain exactly one [1..1] @code="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14 STATIC) (CONF:21514).
10. SHALL contain exactly one [1..1] value with @xsi:type="CD" (CONF:21515).
    1. In an Evidence of Infection (Dialysis) report, to represent the suspected source as a code, the value of @code SHALL be selected from ValueSet NHSNSuspectedSourceTypeCode 2.16.840.1.114222.4.11.6008 STATIC 20111215 (CONF:21516).
    2. If the suspected source is not listed in Value Set 2.16.840.1.114222.4.11.6008 NHSNSuspectedSourceTypeCode STATIC 20111215, set the value of @nullFlavor to ‘OTH’ (CONF:21517).
    3. If the suspected source is uncertain, set the value of @nullFlavor to “NI” (CONF:21518).
11. SHALL contain exactly one [1..1] entryRelationship (CONF:21519) such that it
    1. SHALL contain exactly one [1..1] @typeCode="COMP" Has component (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002 STATIC) (CONF:21520).
    2. SHALL contain exactly one [1..1] [Imputability Observation](#E_Imputability_Observation) (identifier: oid:2.16.840.1.113883.10.20.5.6.134) (CONF:21521).
       1. This observation SHALL contain exactly one [1..1] code (CONF:21522).
          1. This code SHALL contain exactly one [1..1] @code="2307-7" Imputability of positive blood culture to the suspected source (CodeSystem: cdcNHSN 2.16.840.1.113883.6.277 STATIC) (CONF:21523).
       2. This observation SHALL contain exactly one [1..1] value (CONF:21524).
          1. This value SHALL contain exactly one [1..1] @code="60022001" Possible (CodeSystem: SNOMED CT 2.16.840.1.113883.6.96 STATIC) (CONF:21525).

Table 296: NHSNSuspectedSourceTypeCode

|  |  |  |  |
| --- | --- | --- | --- |
| Value Set: NHSNSuspectedSourceTypeCode 2.16.840.1.114222.4.11.6008  Code System: cdcNHSN 2.16.840.1.113883.6.277 | | | |
| Code | Code System | Code System OID | Print Name |
| 2319-2 | cdcNHSN | 2.16.840.1.113883.6.277 | Vascular access |
| 2303-6 | cdcNHSN | 2.16.840.1.113883.6.277 | Contaminant |

Figure 116: Suspected Source Observation Example

<observation classCode="OBS" moodCode="EVN" negationInd="false">

<templateId root="2.16.840.1.113883.10.20.22.4.4"/>

<!-- HAI Suspected Source of Pathogen templateId -->

<templateId root="2.16.840.1.113883.10.20.5.6.168"/>

<id nullFlavor="NA"/>

<code code="ASSERTION"

codeSystem="2.16.840.1.113883.5.4"/>

<statusCode code="completed"/>

<value xsi:type="CD"

codeSystem="2.16.840.1.113883.6.277"

codeSystemName="cdcNHSN"

code="2319-2"

displayName="Vascular access"/>

<!-- Imputability = possible (the "suspected" source) -->

<entryRelationship typeCode="COMP">

<observation classCode="OBS" moodCode="EVN" negationInd="false">

<templateId root="2.16.840.1.113883.10.20.22.4.4"/>

<!-- HAI Imputability Observation -->

<templateId root="2.16.840.1.113883.10.20.5.6.134"/>

<id nullFlavor="NA"/>

<code codeSystem="2.16.840.1.113883.6.277"

codeSystemName="cdcNHSN"

code="2307-7"

displayName="Imputability of positive blood culture

to the suspected source"/>

<statusCode code="completed"/>

<value xsi:type="CD"

codeSystem="2.16.840.1.113883.6.96"

codeSystemName="SNOMED CT"

code="60022001"

displayName="Possible"/>

</observation>

</entryRelationship>

</observation>

Transient Patient Observation

[observation: identifier oid:2.16.840.1.113883.10.20.5.6.169 (closed)]

Table 297: Transient Patient Observation Contexts

| Contained By: | Contains: |
| --- | --- |
| [Dialysis Patient Observation](#E_Dialysis_Patient_Observation) (required) |  |

This observation records whether the service location submitting the report is the location where the patient is usually seen. It is used in the Evidence of Infection (Dialysis) Report.

When the service location is not the location where the patient is usually seen, set the value of @negationInd to false. When the service location is the location where the patient is usually seen, set the value of @negationInd to true.

Table 298: Transient Patient Observation Constraints Overview

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| XPath | Card. | Verb | Data Type | CONF# | Value |
| observation (identifier: oid:2.16.840.1.113883.10.20.5.6.169) | | | | | |
| @classCode | 1..1 | SHALL |  | [21451](#C_21451) | 2.16.840.1.113883.5.6 (HL7ActClass) = OBS |
| @moodCode | 1..1 | SHALL |  | [21452](#C_21452) | 2.16.840.1.113883.5.1001 (ActMood) = EVN |
| @negationInd | 1..1 | SHALL |  | [21453](#C_21453) |  |
| templateId | 1..1 | SHALL |  | [28289](#C_28289) |  |
| @root | 1..1 | SHALL |  | [28290](#C_28290) | 2.16.840.1.113883.10.20.22.4.4 |
| templateId | 1..1 | SHALL |  | [22035](#C_22035) |  |
| @root | 1..1 | SHALL |  | [22036](#C_22036) | 2.16.840.1.113883.10.20.5.6.169 |
| id | 1..1 | SHALL |  | [22737](#C_22737) |  |
| @nullFlavor | 1..1 | SHALL |  | [22738](#C_22738) | NA |
| code | 1..1 | SHALL |  | [21454](#C_21454) |  |
| @code | 1..1 | SHALL |  | [21455](#C_21455) | 2.16.840.1.113883.5.4 (ActCode) = ASSERTION |
| statusCode | 1..1 | SHALL |  | [21456](#C_21456) |  |
| @code | 1..1 | SHALL |  | [21457](#C_21457) | 2.16.840.1.113883.5.14 (ActStatus) = completed |
| value | 1..1 | SHALL | CD | [21458](#C_21458) |  |
| @code | 1..1 | SHALL |  | [21459](#C_21459) | 2.16.840.1.113883.6.277 (cdcNHSN) = 2304-4 |

1. Conforms to Problem Observation template (identifier: oid:2.16.840.1.113883.10.20.22.4.4).
2. SHALL contain exactly one [1..1] @classCode="OBS" Observation (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 STATIC) (CONF:21451).
3. SHALL contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 STATIC) (CONF:21452).
4. SHALL contain exactly one [1..1] @negationInd (CONF:21453).
5. SHALL contain exactly one [1..1] templateId (CONF:28289) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.4.4" (CONF:28290).
6. SHALL contain exactly one [1..1] templateId (CONF:22035) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.6.169" (CONF:22036).
7. SHALL contain exactly one [1..1] id (CONF:22737).
   1. This id SHALL contain exactly one [1..1] @nullFlavor="NA" (CONF:22738).
8. SHALL contain exactly one [1..1] code (CONF:21454).
   1. This code SHALL contain exactly one [1..1] @code="ASSERTION" Assertion (CodeSystem: ActCode 2.16.840.1.113883.5.4 STATIC) (CONF:21455).
9. SHALL contain exactly one [1..1] statusCode (CONF:21456).
   1. This statusCode SHALL contain exactly one [1..1] @code="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14 STATIC) (CONF:21457).
10. SHALL contain exactly one [1..1] value with @xsi:type="CD" (CONF:21458).
    1. This value SHALL contain exactly one [1..1] @code="2304-4" Transient Patient (CodeSystem: cdcNHSN 2.16.840.1.113883.6.277 STATIC) (CONF:21459).

Figure 117: Transient Patient Observation Example

<!-- Transient Patient Observation -->

<!-- If the patient is a transient patient, not usually seen at the

service location submitting the report, set @negationInd to "true". -->

<observation classCode="OBS" moodCode="EVN" negationInd="false">

<!-- C-CDA Problem Observation templateId -->

<templateId root="2.16.840.1.113883.10.20.22.4.4"/>

<id nullFlavor="NA"/>

<!-- HAI Transient Patient Observation templateId-->

<templateId root="2.16.840.1.113883.10.20.5.6.169"/>

<code code="ASSERTION" codeSystem="2.16.840.1.113883.5.4"/>

<statusCode code="completed"/>

<value xsi:type="CD"

codeSystem="2.16.840.1.113883.6.277"

codeSystemName="cdcNHSN"

code="2304-4"

displayName="Transient patient"/>

</observation>

Trauma Observation

[observation: identifier oid:2.16.840.1.113883.10.20.5.6.170 (closed)]

Table 299: Trauma Observation Contexts

| Contained By: | Contains: |
| --- | --- |
| [Infection Risk Factors Section in a Procedure Report](#S_Infection_Risk_Factors_Section_in_a_P) (required) |  |

This observation records whether the person had trauma. It is used in reporting the circumstances of a procedure.

If trauma was involved, set the value of @negationInd to false. If trauma was not involved, set the value of @negationInd to true.

Table 300: Trauma Observation Constraints Overview

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| XPath | Card. | Verb | Data Type | CONF# | Value |
| observation (identifier: oid:2.16.840.1.113883.10.20.5.6.170) | | | | | |
| @classCode | 1..1 | SHALL |  | [20922](#C_20922) | 2.16.840.1.113883.5.6 (HL7ActClass) = OBS |
| @moodCode | 1..1 | SHALL |  | [20923](#C_20923) | 2.16.840.1.113883.5.1001 (ActMood) = EVN |
| @negationInd | 1..1 | SHALL |  | [20924](#C_20924) |  |
| templateId | 1..\* | SHALL |  | [28291](#C_28291) |  |
| @root | 1..1 | SHALL |  | [28292](#C_28292) | 2.16.840.1.113883.10.20.22.4.4 |
| templateId | 1..\* | SHALL |  | [20927](#C_20927) |  |
| @root | 1..1 | SHALL |  | [20928](#C_20928) | 2.16.840.1.113883.10.20.5.6.170 |
| id | 1..1 | SHALL |  | [20929](#C_20929) |  |
| @nullFlavor | 1..1 | SHALL |  | [22735](#C_22735) | NA |
| code | 1..1 | SHALL |  | [20930](#C_20930) |  |
| @code | 1..1 | SHALL | CS | [20931](#C_20931) | 2.16.840.1.113883.5.4 (ActCode) = ASSERTION |
| statusCode | 1..1 | SHALL |  | [20932](#C_20932) |  |
| @code | 1..1 | SHALL |  | [20933](#C_20933) | 2.16.840.1.113883.5.14 (ActStatus) = completed |
| value | 1..1 | SHALL | CD | [20934](#C_20934) |  |
| @code | 1..1 | SHALL |  | [20936](#C_20936) | 2.16.840.1.113883.6.96 (SNOMED CT) = 417746004 |

1. Conforms to Problem Observation template (identifier: oid:2.16.840.1.113883.10.20.22.4.4).
2. SHALL contain exactly one [1..1] @classCode="OBS" Observation (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 STATIC) (CONF:20922).
3. SHALL contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 STATIC) (CONF:20923).
4. SHALL contain exactly one [1..1] @negationInd (CONF:20924).
5. SHALL contain at least one [1..\*] templateId (CONF:28291) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.4.4" (CONF:28292).
6. SHALL contain at least one [1..\*] templateId (CONF:20927) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.6.170" (CONF:20928).
7. SHALL contain exactly one [1..1] id (CONF:20929).
   1. This id SHALL contain exactly one [1..1] @nullFlavor="NA" (CONF:22735).
8. SHALL contain exactly one [1..1] code (CONF:20930).
   1. This code SHALL contain exactly one [1..1] @code="ASSERTION" Assertion (CodeSystem: ActCode 2.16.840.1.113883.5.4 STATIC) (CONF:20931).
9. SHALL contain exactly one [1..1] statusCode (CONF:20932).
   1. This statusCode SHALL contain exactly one [1..1] @code="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14 STATIC) (CONF:20933).
10. SHALL contain exactly one [1..1] value with @xsi:type="CD" (CONF:20934).
    1. This value SHALL contain exactly one [1..1] @code="417746004" Trauma (CodeSystem: SNOMED CT 2.16.840.1.113883.6.96 STATIC) (CONF:20936).

Figure 118: Trauma Observation Example

<observation classCode="OBS" moodCode="EVN" negationInd="false">

<!-- C-CDA Problem Observation templateId -->

<templateId root="2.16.840.1.113883.10.20.22.4.4"/>

<!-- HAI Trauma Observation templateId -->

<templateId root="2.16.840.1.113883.10.20.5.6.170"/>

<id nullFlavor="NA"/>

<code codeSystem="2.16.840.1.113883.5.4" code="ASSERTION"/>

<statusCode code="completed"/>

<value xsi:type="CD"

code="417746004"

codeSystem="2.16.840.1.113883.6.96"

codeSystemName="SNOMED"

displayName="Trauma"/>

</observation>

Urinary Catheter Observation

[observation: identifier oid:2.16.840.1.113883.10.20.5.6.171 (closed)]

Table 301: Urinary Catheter Observation Contexts

| Contained By: | Contains: |
| --- | --- |
| [Infection Risk Factors Section in a UTI Report](#S_Infection_Risk_Factors_Section_in_a_U) (required) | [Device Insertion Time and Location Procedure](#E_Device_Insertion_Time_and_Location_Pr)  [History of Object Presence Observation](#E_History_of_Object_Presence_Observatio) |

This observation records whether or not the person was using a urinary catheter in a UTI report.

If a urinary catheter is present, set the value of @negationInd to false. If the urinary catheter is not present, set the value of @negationInd to true.

Table 302: Urinary Catheter Observation Constraints Overview

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| XPath | Card. | Verb | Data Type | CONF# | Value |
| observation (identifier: oid:2.16.840.1.113883.10.20.5.6.171) | | | | | |
| @classCode | 1..1 | SHALL |  | [21460](#C_21460) | 2.16.840.1.113883.5.6 (HL7ActClass) = OBS |
| @moodCode | 1..1 | SHALL |  | [21461](#C_21461) | 2.16.840.1.113883.5.1001 (ActMood) = EVN |
| @negationInd | 1..1 | SHALL |  | [21462](#C_21462) |  |
| templateId | 1..1 | SHALL |  | [28293](#C_28293) |  |
| @root | 1..1 | SHALL |  | [28294](#C_28294) | 2.16.840.1.113883.10.20.22.4.4 |
| templateId | 1..1 | SHALL |  | [22114](#C_22114) |  |
| @root | 1..1 | SHALL |  | [22117](#C_22117) | 2.16.840.1.113883.10.20.5.6.171 |
| id | 1..1 | SHALL |  | [22115](#C_22115) |  |
| @nullFlavor | 1..1 | SHALL |  | [22727](#C_22727) | NA |
| code | 1..1 | SHALL |  | [21463](#C_21463) |  |
| @code | 1..1 | SHALL | CS | [22116](#C_22116) | 2.16.840.1.113883.5.4 (ActCode) = ASSERTION |
| statusCode | 1..1 | SHALL |  | [21465](#C_21465) |  |
| @code | 1..1 | SHALL |  | [21466](#C_21466) | 2.16.840.1.113883.5.14 (ActStatus) = completed |
| value | 1..1 | SHALL |  | [21467](#C_21467) |  |
| @code | 1..1 | SHALL | CD | [21468](#C_21468) | 2.16.840.1.113883.6.277 (cdcNHSN) = 3191-4 |
| entryRelationship | 0..\* | MAY |  | [21469](#C_21469) |  |
| @typeCode | 1..1 | SHALL |  | [21470](#C_21470) | 2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR |
| @inversionInd | 1..1 | SHALL |  | [21471](#C_21471) | true |
| procedure | 1..1 | SHALL |  | [21472](#C_21472) | [Device Insertion Time and Location Procedure (identifier: oid:2.16.840.1.113883.10.20.5.6.122](#E_Device_Insertion_Time_and_Location_Pr) |
| entryRelationship | 0..1 | MAY |  | [22728](#C_22728) |  |
| @typeCode | 1..1 | SHALL |  | [22729](#C_22729) | 2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = COMP |
| observation | 1..1 | SHALL |  | [22730](#C_22730) | [History of Object Presence Observation (identifier: oid:2.16.840.1.113883.10.20.5.6.132](#E_History_of_Object_Presence_Observatio) |

1. Conforms to Problem Observation template (identifier: oid:2.16.840.1.113883.10.20.22.4.4).
2. SHALL contain exactly one [1..1] @classCode="OBS" Observation (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 STATIC) (CONF:21460).
3. SHALL contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 STATIC) (CONF:21461).
4. SHALL contain exactly one [1..1] @negationInd (CONF:21462).
5. SHALL contain exactly one [1..1] templateId (CONF:28293) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.4.4" (CONF:28294).
6. SHALL contain exactly one [1..1] templateId (CONF:22114) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.6.171" (CONF:22117).
7. SHALL contain exactly one [1..1] id (CONF:22115).
   1. This id SHALL contain exactly one [1..1] @nullFlavor="NA" (CONF:22727).
8. SHALL contain exactly one [1..1] code (CONF:21463).
   1. This code SHALL contain exactly one [1..1] @code="ASSERTION" Assertion (CodeSystem: ActCode 2.16.840.1.113883.5.4) (CONF:22116).
9. SHALL contain exactly one [1..1] statusCode (CONF:21465).
   1. This statusCode SHALL contain exactly one [1..1] @code="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14 STATIC) (CONF:21466).
10. SHALL contain exactly one [1..1] value (CONF:21467).
    1. This value SHALL contain exactly one [1..1] @code="3191-4" Urinary catheter present (CodeSystem: cdcNHSN 2.16.840.1.113883.6.277 STATIC) (CONF:21468).
11. MAY contain zero or more [0..\*] entryRelationship (CONF:21469) such that it
    1. SHALL contain exactly one [1..1] @typeCode="REFR" (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002 STATIC) (CONF:21470).
    2. SHALL contain exactly one [1..1] @inversionInd="true" (CONF:21471).
    3. SHALL contain exactly one [1..1] [Device Insertion Time and Location Procedure](#E_Device_Insertion_Time_and_Location_Pr) (identifier: oid:2.16.840.1.113883.10.20.5.6.122) (CONF:21472).
12. MAY contain zero or one [0..1] entryRelationship (CONF:22728) such that it
    1. SHALL contain exactly one [1..1] @typeCode="COMP" (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002) (CONF:22729).
    2. SHALL contain exactly one [1..1] [History of Object Presence Observation](#E_History_of_Object_Presence_Observatio) (identifier: oid:2.16.840.1.113883.10.20.5.6.132) (CONF:22730).
    3. If a urinary catheter is not present (@negationInd="true"), this entryRelationship SHALL be present (CONF:22731).

Figure 119: Urinary Catheter Observation Example

<observation classCode="OBS" moodCode="EVN" negationInd="true">

<!-- C-CDA Problem Observation templateId. -->

<templateId root="2.16.840.1.113883.10.20.22.4.4"/>

<!-- HAI Urinary Catheter Observation templateId-->

<templateId root="2.16.840.1.113883.10.20.5.6.171"/>

<id nullFlavor="NA"/>

<code codeSystem="2.16.840.1.113883.5.4"

code="ASSERTION"/>

<statusCode code="completed"/>

<value xsi:type="CD"

codeSystem="2.16.840.1.113883.6.277"

codeSystemName="cdcNHSN"

code="3191-4"

displayName="Urinary Catheter Present"/>

</observation>

Vascular Access Type Observation

[observation: identifier oid:2.16.840.1.113883.10.20.5.6.172 (closed)]

Table 303: Vascular Access Type Observation Contexts

| Contained By: | Contains: |
| --- | --- |
| [Risk Factors Section in an Evidence of Infection (Dialysis) Report](#S_Risk_Factors_Section_in_an_Evidence_o) (required) | [Buttonhole Cannulation Observation](#E_Buttonhole_Cannulation_Observation) |

This observation records the presence or absence of a type of vascular access. This clinical statement is used in the Risk Factors Section in an Evidence of Infection (Dialysis) Report.

NHSN protocol requires one such observation for each value in the Vascular Access Type value set, and an additional such observation that records whether any other type of vascular access was present.

The value of effectiveTime/low represents the access placement date. NHSN protocol specifies that this date be recorded as year and month. CDA requires that the year be recorded as four digits: the form of an access placement date will be yyyymm.

Table 304: Vascular Access Type Observation Constraints Overview

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| XPath | Card. | Verb | Data Type | CONF# | Value |
| observation (identifier: oid:2.16.840.1.113883.10.20.5.6.172) | | | | | |
| @classCode | 1..1 | SHALL |  | [21474](#C_21474) | 2.16.840.1.113883.5.6 (HL7ActClass) = OBS |
| @moodCode | 1..1 | SHALL |  | [21475](#C_21475) | 2.16.840.1.113883.5.1001 (ActMood) = EVN |
| @negationInd | 1..1 | SHALL |  | [21476](#C_21476) |  |
| templateId | 1..1 | SHALL |  | [28295](#C_28295) |  |
| @root | 1..1 | SHALL |  | [28296](#C_28296) | 2.16.840.1.113883.10.20.22.4.4 |
| templateId | 1..1 | SHALL |  | [22037](#C_22037) |  |
| @root | 1..1 | SHALL |  | [22038](#C_22038) | 2.16.840.1.113883.10.20.5.6.172 |
| id | 1..1 | SHALL |  | [22721](#C_22721) |  |
| @nullFlavor | 1..1 | SHALL |  | [22722](#C_22722) |  |
| code | 1..1 | SHALL |  | [21477](#C_21477) |  |
| @code | 1..1 | SHALL |  | [21478](#C_21478) | 2.16.840.1.113883.5.4 (ActCode) = ASSERTION |
| text | 0..1 | MAY |  | [21479](#C_21479) |  |
| statusCode | 1..1 | SHALL |  | [21481](#C_21481) |  |
| @code | 1..1 | SHALL |  | [21482](#C_21482) | 2.16.840.1.113883.5.14 (ActStatus) = completed |
| effectiveTime | 1..1 | SHALL |  | [21483](#C_21483) |  |
| low | 1..1 | SHALL |  | [21484](#C_21484) |  |
| value | 1..1 | SHALL |  | [21487](#C_21487) |  |
| entryRelationship | 0..1 | MAY |  | [21490](#C_21490) |  |
| @typeCode | 1..1 | SHALL |  | [21491](#C_21491) | 2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = COMP |
| observation | 1..1 | SHALL |  | [21492](#C_21492) | [Buttonhole Cannulation Observation (identifier: oid:2.16.840.1.113883.10.20.5.6.115](#E_Buttonhole_Cannulation_Observation) |
| entryRelationship | 0..1 | MAY |  | [22039](#C_22039) |  |
| @typeCode | 1..1 | SHALL |  | [22040](#C_22040) | 2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = COMP |
| observation | 1..1 | SHALL |  | [22041](#C_22041) | [Buttonhole Cannulation Observation (identifier: oid:2.16.840.1.113883.10.20.5.6.115](#E_Buttonhole_Cannulation_Observation) |

1. Conforms to Problem Observation template (identifier: oid:2.16.840.1.113883.10.20.22.4.4).
2. SHALL contain exactly one [1..1] @classCode="OBS" Observation (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 STATIC) (CONF:21474).
3. SHALL contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 STATIC) (CONF:21475).
4. SHALL contain exactly one [1..1] @negationInd (CONF:21476).
5. SHALL contain exactly one [1..1] templateId (CONF:28295) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.4.4" (CONF:28296).
6. SHALL contain exactly one [1..1] templateId (CONF:22037) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.6.172" (CONF:22038).
7. SHALL contain exactly one [1..1] id (CONF:22721).
   1. This id SHALL contain exactly one [1..1] @nullFlavor (CONF:22722).
8. SHALL contain exactly one [1..1] code (CONF:21477).
   1. This code SHALL contain exactly one [1..1] @code="ASSERTION" Assertion (CodeSystem: ActCode 2.16.840.1.113883.5.4 STATIC) (CONF:21478).
9. MAY contain zero or one [0..1] text (CONF:21479).
   1. The text element is to be used for additional information commenting on the vascular access type (CONF:21480).
10. SHALL contain exactly one [1..1] statusCode (CONF:21481).
    1. This statusCode SHALL contain exactly one [1..1] @code="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14 STATIC) (CONF:21482).
11. SHALL contain exactly one [1..1] effectiveTime (CONF:21483).
    1. This effectiveTime SHALL contain exactly one [1..1] low (CONF:21484).
       1. When the access placement date is not known, the value of @nullFlavor SHALL be NI (no information) (CONF:21485).
       2. When the access placement date is known, it SHALL be recorded as year and month (yyyymm) (CONF:21486).
12. SHALL contain exactly one [1..1] value (CONF:21487).
    1. To record the presence or absence of a vascular access type that is listed in the NHSN Vascular Access Type value set, the value of @code SHALL be selected from ValueSet 2.16.840.1.114222.4.11.6007 NHSNVascularAccessTypeCode STATIC 20120808 (CONF:21488).
    2. To record that another type of vascular access is present, set the value of @nullFlavor to OTH (other) (CONF:21489).
13. MAY contain zero or one [0..1] entryRelationship (CONF:21490) such that it
    1. SHALL contain exactly one [1..1] @typeCode="COMP" (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002 STATIC) (CONF:21491).
    2. SHALL contain exactly one [1..1] [Buttonhole Cannulation Observation](#E_Buttonhole_Cannulation_Observation) (identifier: oid:2.16.840.1.113883.10.20.5.6.115) (CONF:21492).

If the vascular access type is “Surgically constructed arteriovenous fistula” (SNOMED CT 438503005), this observation must contain an entryRelationship element such that it

1. MAY contain zero or one [0..1] entryRelationship (CONF:22039).
   1. The entryRelationship, if present, SHALL contain exactly one [1..1] @typeCode="COMP" (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002) (CONF:22040).
   2. The entryRelationship, if present, SHALL contain exactly one [1..1] [Buttonhole Cannulation Observation](#E_Buttonhole_Cannulation_Observation) (identifier: oid:2.16.840.1.113883.10.20.5.6.115) (CONF:22041).

Table 305: NHSNVascularAccessTypeCode

|  |  |  |  |
| --- | --- | --- | --- |
| Value Set: NHSNVascularAccessTypeCode 2.16.840.1.114222.4.11.6007  Code System: SNOMED CT 2.16.840.1.113883.6.96 or cdcNHSN 2.16.840.1.113883.6.277 | | | |
| Code | Code System | Code System OID | Print Name |
| 438503005 | SNOMED CT | 2.16.840.1.113883.6.96 | Surgically constructed arteriovenous fistula |
| 439218000 | SNOMED CT | 2.16.840.1.113883.6.96 | Surgically constructed arteriovenous graft |
| 1117-1 | cdcNHSN | 2.16.840.1.113883.6.277 | Tunneled central line, dialysis |
| 1119-7 | cdcNHSN | 2.16.840.1.113883.6.277 | Non-tunneled central line, dialysis |
| 1969-5 | cdcNHSN | 2.16.840.1.113883.6.277 | Catheter-graft hybrid |

Figure 120: Vascular Access Type Observation Example

<observation classCode="OBS" moodCode="EVN" negationInd="false">

<!-- C-CDA Problem Observation templateId -->

<templateId root="2.16.840.1.113883.10.20.22.4.4"/>

<!-- HAI Vascular Access Type Observation templateId -->

<templateId root="2.16.840.1.113883.10.20.5.6.172"/>

<id nullFlavor="NA"/>

<code codeSystem="2.16.840.1.113883.5.4" code="ASSERTION"/>

<statusCode code="completed"/>

<!-- Access placement date; may be unknown @nullFlavor="NI" -->

<effectiveTime>

<low value="200708"/>

</effectiveTime>

<value xsi:type="CD"

codeSystem="2.16.840.1.113883.6.96"

codeSystemName="SNOMED CT"

code="438503005"

displayName="Surgically constructed arteriovenous fistula"/>

<!-- If a fistula, specify whether buttonhole cannulation is used -->

<entryRelationship typeCode=”COMP”>

<observation classCode=”OBS” moodCode=”EVN”>

<!-- C-CDA Procedure Activity Observation -->

<templateId root="2.16.840.1.113883.10.20.22.4.13"/>

<!-- HAI Buttonhole Cannulation Observation templateId -->

<templateId root="2.16.840.1.113883.10.20.5.6.115"/>

...

</observation>

</entryRelationship>

</observation>

Weight Observation

[observation: identifier oid:2.16.840.1.113883.10.20.5.6.173 (closed)]

Table 306: Weight Observation Contexts

| Contained By: | Contains: |
| --- | --- |
| [Infection Risk Factors Section in a Procedure Report](#S_Infection_Risk_Factors_Section_in_a_P) (required) |  |

This observation records a body weight. NHSN protocol requires that the value be an integer.

Table 307: Weight Observation Constraints Overview

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| XPath | Card. | Verb | Data Type | CONF# | Value |
| observation (identifier: oid:2.16.840.1.113883.10.20.5.6.173) | | | | | |
| @classCode | 1..1 | SHALL |  | [19702](#C_19702) | 2.16.840.1.113883.5.6 (HL7ActClass) = OBS |
| @moodCode | 1..1 | SHALL |  | [19703](#C_19703) | 2.16.840.1.113883.5.1001 (ActMood) = EVN |
| @negationInd | 1..1 | SHALL |  | [19704](#C_19704) | false |
| templateId | 1..1 | SHALL |  | [28297](#C_28297) |  |
| @root | 1..1 | SHALL |  | [28298](#C_28298) | 2.16.840.1.113883.10.20.22.4.27 |
| templateId | 1..1 | SHALL |  | [19712](#C_19712) |  |
| @root | 1..1 | SHALL |  | [19714](#C_19714) | 2.16.840.1.113883.10.20.5.6.173 |
| id | 1..1 | SHALL |  | [19897](#C_19897) |  |
| @nullFlavor | 1..1 | SHALL |  | [22718](#C_22718) | NA |
| code | 1..1 | SHALL |  | [19705](#C_19705) |  |
| @code | 1..1 | SHALL |  | [19706](#C_19706) | 2.16.840.1.113883.6.96 (SNOMED CT) = 27113001 |
| statusCode | 1..1 | SHALL |  | [19707](#C_19707) |  |
| @code | 1..1 | SHALL |  | [19708](#C_19708) | 2.16.840.1.113883.5.14 (ActStatus) = completed |
| effectiveTime | 1..1 | SHALL |  | [19898](#C_19898) |  |
| @nullFlavor | 1..1 | SHALL |  | [22719](#C_22719) | NA |
| value | 1..1 | SHALL | PQ | [19709](#C_19709) |  |

1. Conforms to Vital Sign Observation template (identifier: oid:2.16.840.1.113883.10.20.22.4.27).
2. SHALL contain exactly one [1..1] @classCode="OBS" Observation (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 STATIC) (CONF:19702).
3. SHALL contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 STATIC) (CONF:19703).
4. SHALL contain exactly one [1..1] @negationInd="false" (CONF:19704).
5. SHALL contain exactly one [1..1] templateId (CONF:28297) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.4.27" (CONF:28298).
6. SHALL contain exactly one [1..1] templateId (CONF:19712) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.6.173" (CONF:19714).
7. SHALL contain exactly one [1..1] id (CONF:19897).
   1. This id SHALL contain exactly one [1..1] @nullFlavor="NA" (CONF:22718).
8. SHALL contain exactly one [1..1] code (CONF:19705).
   1. This code SHALL contain exactly one [1..1] @code="27113001" Body weight (CodeSystem: SNOMED CT 2.16.840.1.113883.6.96 STATIC) (CONF:19706).
9. SHALL contain exactly one [1..1] statusCode (CONF:19707).
   1. This statusCode SHALL contain exactly one [1..1] @code="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14 STATIC) (CONF:19708).
10. SHALL contain exactly one [1..1] effectiveTime (CONF:19898).
    1. This effectiveTime SHALL contain exactly one [1..1] @nullFlavor="NA" (CONF:22719).
11. SHALL contain exactly one [1..1] value with @xsi:type="PQ" (CONF:19709).
    1. The value of value/@value SHALL be a non-negative real number representing the body weight (CONF:19710).

Figure 121: Weight Observation Example

<observation classCode="OBS" moodCode="EVN" negationInd="false">

<!-- C-CDA Vital Sign Observation templateId -->

<templateId root="2.16.840.1.113883.10.20.22.4.27"/>

<!-- HAI Weight Observation templateId -->

<templateId root="2.16.840.1.113883.10.20.5.6.173"/>

<id nullFlavor="NA"/>

<code codeSystem="2.16.840.1.113883.6.96"

codeSystemName="SNOMED"

code="27113001"

displayName="Body Weight"/>

<statusCode code="completed"/>

<effectiveTime nullFlavor="NA"/>

<value xsi:type="PQ" value="65" unit="kg"/>

</observation>

Wound Class Observation

[observation: identifier oid:2.16.840.1.113883.10.20.5.6.174 (closed)]

Table 308: Wound Class Observation Contexts

| Contained By: | Contains: |
| --- | --- |
| [Procedure Risk Factors Clinical Statement in a Procedure Report](#E_Procedure_Risk_Factors_Clinical_State) (required) |  |

NHSN patient safety protocol on this topic is an adaptation of (not a change to) the American College of Surgeons (ACoS) definitions, which are the definitions used by SNOMED. Thus, SNOMED wound-class codes are appropriate for use with this observation.

Table 309: Wound Class Observation Constraints Overview

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| XPath | Card. | Verb | Data Type | CONF# | Value |
| observation (identifier: oid:2.16.840.1.113883.10.20.5.6.174) | | | | | |
| @classCode | 1..1 | SHALL |  | [19679](#C_19679) | 2.16.840.1.113883.5.6 (HL7ActClass) = OBS |
| @moodCode | 1..1 | SHALL |  | [19680](#C_19680) | 2.16.840.1.113883.5.1001 (ActMood) = EVN |
| templateId | 1..1 | SHALL |  | [28299](#C_28299) |  |
| @root | 1..1 | SHALL |  | [28300](#C_28300) | 2.16.840.1.113883.10.20.22.4.4 |
| templateId | 1..1 | SHALL |  | [19689](#C_19689) |  |
| @root | 1..1 | SHALL |  | [19690](#C_19690) | 2.16.840.1.113883.10.20.5.6.174 |
| id | 1..1 | SHALL |  | [19691](#C_19691) |  |
| @nullFlavor | 1..1 | SHALL |  | [22717](#C_22717) | NA |
| code | 1..1 | SHALL |  | [19681](#C_19681) |  |
| @code | 1..1 | SHALL |  | [19682](#C_19682) | 2.16.840.1.113883.6.96 (SNOMED CT) = 420089007 |
| statusCode | 1..1 | SHALL |  | [19683](#C_19683) |  |
| @code | 1..1 | SHALL |  | [19684](#C_19684) | 2.16.840.1.113883.5.14 (ActStatus) = completed |
| value | 1..1 | SHALL | CD | [19685](#C_19685) | 2.16.840.1.113883.13.9 (NHSNWoundClassCode) |

1. Conforms to Problem Observation template (identifier: oid:2.16.840.1.113883.10.20.22.4.4).
2. SHALL contain exactly one [1..1] @classCode="OBS" Observation (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 STATIC) (CONF:19679).
3. SHALL contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 STATIC) (CONF:19680).
4. SHALL contain exactly one [1..1] templateId (CONF:28299) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.4.4" (CONF:28300).
5. SHALL contain exactly one [1..1] templateId (CONF:19689) such that it
   1. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.6.174" (CONF:19690).
6. SHALL contain exactly one [1..1] id (CONF:19691).
   1. This id SHALL contain exactly one [1..1] @nullFlavor="NA" (CONF:22717).
7. SHALL contain exactly one [1..1] code (CONF:19681).
   1. This code SHALL contain exactly one [1..1] @code="420089007" CDC Wound Classification Category (CodeSystem: SNOMED CT 2.16.840.1.113883.6.96 STATIC) (CONF:19682).
8. SHALL contain exactly one [1..1] statusCode (CONF:19683).
   1. This statusCode SHALL contain exactly one [1..1] @code="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14 STATIC) (CONF:19684).
9. SHALL contain exactly one [1..1] value with @xsi:type="CD", where the code SHALL be selected from ValueSet [NHSNWoundClassCode](#NHSNWoundClassCode) 2.16.840.1.113883.13.9 STATIC 2008-01-30 (CONF:19685).

Table 310: NHSNWoundClassCode

|  |  |  |  |
| --- | --- | --- | --- |
| Value Set: NHSNWoundClassCode 2.16.840.1.113883.13.9  Code System: SNOMED CT 2.16.840.1.113883.6.96 | | | |
| Code | Code System | Code System OID | Print Name |
| 418780004 | SNOMED CT | 2.16.840.1.113883.6.96 | Class I/Clean (Clean) |
| 418115006 | SNOMED CT | 2.16.840.1.113883.6.96 | Class II/Clean Contaminated (Clean-contaminated) |
| 419877002 | SNOMED CT | 2.16.840.1.113883.6.96 | Class III/Contaminated (Contaminated) |
| 418422005 | SNOMED CT | 2.16.840.1.113883.6.96 | Class IV/Dirty Infected (Dirty) |

Figure 122: Wound Class Observation Example

<observation classCode="OBS" moodCode="EVN">

<!-- C-CDA Problem Observation templateId -->

<templateId root="2.16.840.1.113883.10.20.22.4.4"/>

<!-- HAI Wound Class Observation templateID -->

<templateId root="2.16.840.1.113883.10.20.5.6.174"/>

<id nullFlavor="NA"/>

<code codeSystem="2.16.840.1.113883.6.96"

code="420089007"

displayName="Wound Classification Category"/>

<statusCode code="completed"/>

<value xsi:type="CD"

codeSystem="2.16.840.1.113883.6.96"

code="418115006"

displayName="CDC Wound Class II/Clean Contaminated"/>

</observation>

# Template Ids in This Guide

Table 311: Template List

| Template Title | Template Type | templateId |
| --- | --- | --- |
| [Antimicrobial Resistance Option (ARO) Summary Report](#Antimicrobial_Resistance_Option_ARO_Sum) | document | oid:2.16.840.1.113883.10.20.5.46 |
| [Antimicrobial Use (AUP) Summary Report](#Antimicrobial_Use_AUP_Summary_Report_R1) | document | oid:2.16.840.1.113883.10.20.5.44 |
| [HAI AUR Antimicrobial Resistance Option (ARO) Report](#HAI_AUR_Antimicrobial_Resistance_Option) | document | oid:2.16.840.1.113883.10.20.5.31 |
| [HAI Bloodstream Infection Report (BSI)](#HAI_Bloodstream_Infection_Report_BSI_R1) | document | oid:2.16.840.1.113883.10.20.5.32 |
| [HAI Central-Line Insertion Practice Numerator Report](#HAI_CentralLine_Insertion_Practice_NuR1) | document | oid:2.16.840.1.113883.10.20.5.36 |
| [HAI Evidence of Infection (Dialysis) Report (V2)](#D_HAI_Evidence_of_Infection_Dialysis_V2) | document | oid:2.16.840.1.113883.10.20.5.37.2 |
| [HAI Laboratory-Identified Organism (LIO) Report](#D_HAI_LaboratoryIdentified_Organism_LIO) | document | oid:2.16.840.1.113883.10.20.5.38 |
| [HAI Population Summary Report Generic Constraints](#D_HAI_Population_Summary_Report_Generic) | document | oid:2.16.840.1.113883.10.20.5.4.28 |
| [HAI Procedure Denominator Report (V2)](#D_HAI_Procedure_Denominator_Report_V2) | document | oid:2.16.840.1.113883.10.20.5.35.2 |
| [HAI Single-Person Report Generic Constraints](#D_HAI_SinglePerson_Report_Generic_Const) | document | oid:2.16.840.1.113883.10.20.5.4.27 |
| [HAI Surgical Site Infection Report (SSI) (V2)](#D_HAI_Surgical_Site_Infection_Report_V2) | document | oid:2.16.840.1.113883.10.20.5.33.2 |
| [HAI Urinary Tract Infection Numerator Report (UTI)](#D_HAI_Urinary_Tract_Infection_Numerator) | document | oid:2.16.840.1.113883.10.20.5.34 |
| [Healthcare Associated Infection Report](#D_Healthcare_Associated_Infection_Repor) | document | oid:2.16.840.1.113883.10.20.5.4.25 |
| [Intensive Care Unit (ICU) Summary Report](#D_Intensive_Care_Unit_ICU_Summary_Repor) | document | oid:2.16.840.1.113883.10.20.5.40 |
| [Neonatal Intensive Care Unit (NICU) Summary Report](#D_Neonatal_Intensive_Care_Unit_NICU_Sum) | document | oid:2.16.840.1.113883.10.20.5.41 |
| [Prevention Process and Outcome Measures (POM) Summary Report](#D_Prevention_Process_and_Outcome_Measur) | document | oid:2.16.840.1.113883.10.20.5.43 |
| [Specialty Care Area (SCA) Summary Report](#D_Specialty_Care_Area_SCA_Summary_Repor) | document | oid:2.16.840.1.113883.10.20.5.42 |
| [Vascular Access Type Report (VAT) Summary Report](#D_Vascular_Access_Type_Report_VAT_Summa) | document | oid:2.16.840.1.113883.10.20.5.45 |
| [Details Section in an Evidence of Infection (Dialysis) Report (V2)](#S_Details_Section_in_an_Evidence_of_V2) | section | oid:2.16.840.1.113883.10.20.5.5.41.2 |
| [Encounters Section in a LIO Report](#S_Encounters_Section_in_a_LIO_Report) | section | oid:2.16.840.1.113883.10.20.5.5.44 |
| [Findings Section in a LIO Report](#S_Findings_Section_in_a_LIO_Report) | section | oid:2.16.840.1.113883.10.20.5.5.46 |
| [Findings Section in an ARO Report](#S_Findings_Section_in_an_ARO_Report) | section | oid:2.16.840.1.113883.10.20.5.5.32 |
| [Findings Section in an Infection-Type Report](#S_Findings_Section_in_an_InfectionType_) | section | oid:2.16.840.1.113883.10.20.5.5.45 |
| [HAI Section Generic Constraints](#S_HAI_Section_Generic_Constraints) | section | oid:2.16.840.1.113883.10.20.5.4.26 |
| [Infection Details Section in a BSI Report](#S_Infection_Details_Section_in_a_BSI_Re) | section | oid:2.16.840.1.113883.10.20.5.5.38 |
| [Infection Details Section in a UTI Report](#S_Infection_Details_Section_in_a_UTI_Re) | section | oid:2.16.840.1.113883.10.20.5.5.40 |
| [Infection Details Section in an SSI Report (V2)](#S_Infection_Details_Section_in_an_SSI_V2) | section | oid:2.16.840.1.113883.10.20.5.5.39.2 |
| [Infection Risk Factors Section in a BSI Report](#S_Infection_Risk_Factors_Section_in_a_B) | section | oid:2.16.840.1.113883.10.20.5.5.33 |
| [Infection Risk Factors Section in a CLIP Report](#S_Infection_Risk_Factors_Section_in_a_C) | section | oid:2.16.840.1.113883.10.20.5.5.34 |
| [Infection Risk Factors Section in a Procedure Report](#S_Infection_Risk_Factors_Section_in_a_P) | section | oid:2.16.840.1.113883.10.20.5.5.35 |
| [Infection Risk Factors Section in a UTI Report](#S_Infection_Risk_Factors_Section_in_a_U) | section | oid:2.16.840.1.113883.10.20.5.5.36 |
| [Procedure Details Section in a CLIP Report](#S_Procedure_Details_Section_in_a_CLIP_R) | section | oid:2.16.840.1.113883.10.20.5.5.42 |
| [Procedure Details Section in a Procedure Report (V2)](#Procedure_Details_Section_in_a_Procedur) | section | oid:2.16.840.1.113883.10.20.5.5.43.2 |
| [Risk Factors Section in an Evidence of Infection (Dialysis) Report](#S_Risk_Factors_Section_in_an_Evidence_o) | section | oid:2.16.840.1.113883.10.20.5.5.37 |
| [Summary Data Section (ARO)](#Summary_Data_Section_ARO) | section | oid:2.16.840.1.113883.10.20.5.5.52 |
| [Summary Data Section (AUP)](#S_Summary_Data_Section_AUP) | section | oid:2.16.840.1.113883.10.20.5.5.51 |
| [Summary Data Section (NICU)](#S_Summary_Data_Section_NICU) | section | oid:2.16.840.1.113883.10.20.5.5.48 |
| [Summary Data Section (POM)](#S_Summary_Data_Section_POM) | section | oid:2.16.840.1.113883.10.20.5.5.49 |
| [Summary Data Section](#S_Summary_Data_Section) | section | oid:2.16.840.1.113883.10.20.5.5.47 |
| [Summary Data Section (VAT)](#S_Summary_Data_Section_VAT) | section | oid:2.16.840.1.113883.10.20.5.5.50 |
| [Anesthesia Administration Clinical Statement](#E_Anesthesia_Administration_Clinical_St) | entry | oid:2.16.840.1.113883.10.20.5.6.112 |
| [Antimicrobial Susceptibility Antibiotic](#E_Antimicrobial_Susceptibility_Antibiot) | entry | oid:2.16.840.1.113883.10.20.5.6.176 |
| [Antimicrobial Susceptibility Final Interpretation Result](#E_Antimicrobial_Susceptibility_Final_In) | entry | oid:2.16.840.1.113883.10.20.5.6.175 |
| [Antimicrobial Susceptibility Isolate Participant](#Antimicrobial_Susceptibility_Isolate_Pa) | entry | oid:2.16.840.1.113883.10.20.5.6.202 |
| [Antimicrobial Susceptibility Result Observation](#E_Antimicrobial_Susceptibility_Result_O) | entry | oid:2.16.840.1.113883.10.20.5.6.186 |
| [Antimicrobial Susceptibility Result Organizer](#Antimicrobial_Susceptibility_Result_Org) | entry | oid:2.16.840.1.113883.10.20.5.6.200 |
| [Antimicrobial Susceptibility Tests Organizer](#E_Antimicrobial_Susceptibility_Tests_Or) | entry | oid:2.16.840.1.113883.10.20.5.6.177 |
| [ARO Staph Aureus Specific Tests Organizer](#E_ARO_Staph_Aureus_Specific_Tests_Organ) | entry | oid:2.16.840.1.113883.10.20.5.6.190 |
| [ARO Staph Aureus Specific Tests Result Observation](#E_ARO_Staph_Aureus_Specific_Tests_Resul) | entry | oid:2.16.840.1.113883.10.20.5.6.189 |
| [ASA Class Observation](#E_ASA_Class_Observation) | entry | oid:2.16.840.1.113883.10.20.5.6.113 |
| [Bloodstream Infection Evidence Type Observation](#E_Bloodstream_Infection_Evidence_Type_O) | entry | oid:2.16.840.1.113883.10.20.5.6.114 |
| [Buttonhole Cannulation Observation](#E_Buttonhole_Cannulation_Observation) | entry | oid:2.16.840.1.113883.10.20.5.6.115 |
| [Central-Line Insertion Practice Clinical Statement](#E_CentralLine_Insertion_Practice_Clinic) | entry | oid:2.16.840.1.113883.10.20.5.6.116 |
| [Central-Line Insertion Preparation Organizer](#E_CentralLine_Insertion_Preparation_Org) | entry | oid:2.16.840.1.113883.10.20.5.6.179 |
| [Closure Technique Procedure](#E_Closure_Technique_Procedure) | entry | oid:2.16.840.1.113883.10.20.5.6.117 |
| [Contraindicated Observation](#E_Contraindicated_Observation) | entry | oid:2.16.840.1.113883.10.20.5.6.118 |
| [Criteria of Diagnosis Organizer](#E_Criteria_of_Diagnosis_Organizer) | entry | oid:2.16.840.1.113883.10.20.5.6.180 |
| [Criterion of Diagnosis Observation](#E_Criterion_of_Diagnosis_Observation) | entry | oid:2.16.840.1.113883.10.20.5.6.119 |
| [Death Observation](#E_Death_Observation) | entry | oid:2.16.840.1.113883.10.20.5.6.120 |
| [Death Observation in an Evidence of Infection (Dialysis) Report](#E_Death_Observation_in_an_Evidence_of_I) | entry | oid:2.16.840.1.113883.10.20.5.6.121 |
| [Device Insertion Time and Location Procedure](#E_Device_Insertion_Time_and_Location_Pr) | entry | oid:2.16.840.1.113883.10.20.5.6.122 |
| [Diabetes Mellitus Observation](#E_Diabetes_Mellitus_Observation) | entry | oid:2.16.840.1.113883.10.20.5.6.123 |
| [Dialysis Clinic Admission Clinical Statement](#E_Dialysis_Clinic_Admission_Clinical_St) | entry | oid:2.16.840.1.113883.10.20.5.6.124 |
| [Dialysis Patient Observation](#E_Dialysis_Patient_Observation) | entry | oid:2.16.840.1.113883.10.20.5.6.125 |
| [Drug-Susceptibility Test Observation](#E_DrugSusceptibility_Test_Observation) | entry | oid:2.16.840.1.113883.10.20.5.6.126 |
| [Duration of Labor Observation](#E_Duration_of_Labor_Observation) | entry | oid:2.16.840.1.113883.10.20.5.6.127 |
| [Endoscope Used Clinical Statement](#E_Endoscope_Used_Clinical_Statement) | entry | oid:2.16.840.1.113883.10.20.5.6.128 |
| [Findings Organizer](#E_Findings_Organizer) | entry | oid:2.16.840.1.113883.10.20.5.6.182 |
| [Guidewire Used Clinical Statement](#E_Guidewire_Used_Clinical_Statement) | entry | oid:2.16.840.1.113883.10.20.5.6.129 |
| [Hand Hygiene Performed Clinical Statement](#E_Hand_Hygiene_Performed_Clinical_State) | entry | oid:2.16.840.1.113883.10.20.5.6.130 |
| [Height Observation](#E_Height_Observation) | entry | oid:2.16.840.1.113883.10.20.5.6.131 |
| [History of Object Presence Observation](#E_History_of_Object_Presence_Observatio) | entry | oid:2.16.840.1.113883.10.20.5.6.132 |
| [Hospital Admission Clinical Statement](#E_Hospital_Admission_Clinical_Statement) | entry | oid:2.16.840.1.113883.10.20.5.6.133 |
| [Imputability Observation](#E_Imputability_Observation) | entry | oid:2.16.840.1.113883.10.20.5.6.134 |
| [Infection Condition Observation](#E_Infection_Condition_Observation) | entry | oid:2.16.840.1.113883.10.20.5.6.135 |
| [Infection Contributed to Death Observation](#E_Infection_Contributed_to_Death_Observ) | entry | oid:2.16.840.1.113883.10.20.5.6.136 |
| [Infection Indicator Organizer](#E_Infection_Indicator_Organizer) | entry | oid:2.16.840.1.113883.10.20.5.6.181 |
| [Infection Present at the Time of Surgery Observation](#E_Infection_Present_at_the_Time_of_Surg) | entry | oid:2.16.840.1.113883.10.20.5.6.205 |
| [Infection Risk Factors Measurement Observation](#E_Infection_Risk_Factors_Measurement_Ob) | entry | oid:2.16.840.1.113883.10.20.5.6.137 |
| [Infection Risk Factors Observation](#E_Infection_Risk_Factors_Observation) | entry | oid:2.16.840.1.113883.10.20.5.6.138 |
| [Infection-Type Observation](#E_InfectionType_Observation) | entry | oid:2.16.840.1.113883.10.20.5.6.139 |
| [Isolate Susceptibility Tests Organizer](#Isolate_Susceptibility_Tests_Organizer_) | entry | oid:2.16.840.1.113883.10.20.5.6.201 |
| [IV Antibiotic Start Clinical Statement](#E_IV_Antibiotic_Start_Clinical_Statemen) | entry | oid:2.16.840.1.113883.10.20.5.6.140 |
| [IV Antifungal Start Clinical Statement](#E_IV_Antifungal_Start_Clinical_Statemen) | entry | oid:2.16.840.1.113883.10.20.5.6.141 |
| [Loss of Vascular Access Observation](#E_Loss_of_Vascular_Access_Observation) | entry | oid:2.16.840.1.113883.10.20.5.6.203 |
| [MDRO/CDI Observation](#E_MDROCDI_Observation) | entry | oid:2.16.840.1.113883.10.20.5.6.142 |
| [Occasion of HAI Detection Observation](#E_Occasion_of_HAI_Detection_Observation) | entry | oid:2.16.840.1.113883.10.20.5.6.144 |
| [Pathogen Identified Observation (LIO)](#E_Pathogen_Identified_Observation_LIO) | entry | oid:2.16.840.1.113883.10.20.5.6.146 |
| [Pathogen Identified Observation](#E_Pathogen_Identified_Observation) | entry | oid:2.16.840.1.113883.10.20.5.6.145 |
| [Pathogen Ranking Observation](#E_Pathogen_Ranking_Observation) | entry | oid:2.16.840.1.113883.10.20.5.6.147 |
| [PICC/IV Team](#E_PICCIV_Team) | entry | oid:2.16.840.1.113883.10.20.5.6.148 |
| [Positive Blood Culture Observation](#E_Positive_Blood_Culture_Observation) | entry | oid:2.16.840.1.113883.10.20.5.6.149 |
| [Post-Procedure Observation](#E_PostProcedure_Observation) | entry | oid:2.16.840.1.113883.10.20.5.6.150 |
| [Prior Discharge Encounter](#E_Prior_Discharge_Encounter) | entry | oid:2.16.840.1.113883.10.20.5.6.151 |
| [Procedure Details Clinical Statement in a CLIP Report](#E_Procedure_Details_CS_in_a_CLIP_Report) | entry | oid:2.16.840.1.113883.10.20.5.6.155 |
| [Procedure Details Clinical Statement in a Procedure Report (V2)](#Procedure_Details_Clinical_Statement_in) | entry | oid:2.16.840.1.113883.10.20.5.6.153.2 |
| [Procedure Details Clinical Statement in an Infection-Type Report](#E_Procedure_Details_CS_in_an_InfectionT) | entry | oid:2.16.840.1.113883.10.20.5.6.154 |
| [Procedure Risk Factors Clinical Statement in a Procedure Report](#E_Procedure_Risk_Factors_Clinical_State) | entry | oid:2.16.840.1.113883.10.20.5.6.156 |
| [Pus, Redness, or Increased Swelling Observation](#E_Pus_Redness_or_Increased_Swelling_Obs) | entry | oid:2.16.840.1.113883.10.20.5.6.157 |
| [Reason for Procedure Observation](#E_Reason_for_Procedure_Observation) | entry | oid:2.16.840.1.113883.10.20.5.6.158 |
| [Recorder Observation](#E_Recorder_Observation) | entry | oid:2.16.840.1.113883.10.20.5.6.159 |
| [Revision Associated with Prior Infection Observation](#Revision_Associated_with_Prior_Infectio) | entry | oid:2.16.840.1.113883.10.20.5.6.204 |
| [Secondary Bloodstream Infection Observation](#E_Secondary_Bloodstream_Infection_Obser) | entry | oid:2.16.840.1.113883.10.20.5.6.160 |
| [Significant Pathogens Observation](#E_Significant_Pathogens_Observation) | entry | oid:2.16.840.1.113883.10.20.5.6.161 |
| [Skin Preparation Clinical Statement](#E_Skin_Preparation_Clinical_Statement) | entry | oid:2.16.840.1.113883.10.20.5.6.162 |
| [Skin-Preparation Solutions Applied Organizer](#E_SkinPreparation_Solutions_Applied_Org) | entry | oid:2.16.840.1.113883.10.20.5.6.183 |
| [Solutions Dried Observation](#E_Solutions_Dried_Observation) | entry | oid:2.16.840.1.113883.10.20.5.6.163 |
| [Specimen Collection Encounter (ARO)](#Specimen_Collection_Encounter_ARO) | entry | oid:2.16.840.1.113883.10.20.5.6.187 |
| [Specimen Collection Encounter (LIO)](#E_Specimen_Collection_Encounter_LIO) | entry | oid:2.16.840.1.113883.10.20.5.6.164 |
| [Specimen Collection Procedure (ARO)](#E_Specimen_Collection_Procedure_ARO) | entry | oid:2.16.840.1.113883.10.20.5.6.188 |
| [Specimen Collection Procedure (LIO)](#E_Specimen_Collection_Procedure_LIO) | entry | oid:2.16.840.1.113883.10.20.5.6.165 |
| [Spinal Fusion Level Observation](#E_Spinal_Fusion_Level_Observation) | entry | oid:2.16.840.1.113883.10.20.5.6.166 |
| [SSI Detected Using Toolkit Observation](#E_SSI_Detected_Using_Toolkit_Observation) | entry | oid:2.16.840.1.113883.10.20.5.6.206 |
| [Sterile Barriers Applied Clinical Statement](#E_Sterile_Barriers_Applied_Clinical_Sta) | entry | oid:2.16.840.1.113883.10.20.5.6.167 |
| [Summary Data Observation (AUP)](#E_Summary_Data_Observation_AUP) | entry | oid:2.16.840.1.113883.10.20.5.6.194 |
| [Summary Data Observation (POM)](#E_Summary_Data_Observation_POM) | entry | oid:2.16.840.1.113883.10.20.5.6.192 |
| [Summary Data Observation](#E_Summary_Data_Observation) | entry | oid:2.16.840.1.113883.10.20.5.6.185 |
| [Summary Data Observation (VAT)](#E_Summary_Data_Observation_VAT) | entry | oid:2.16.840.1.113883.10.20.5.6.195 |
| [Summary Encounter (ARO)](#E_Summary_Encounter_ARO_R1) | entry | oid:2.16.840.1.113883.10.20.5.6.199 |
| [Summary Encounter (AUP)](#E_Summary_Encounter_AUP) | entry | oid:2.16.840.1.113883.10.20.5.6.198 |
| [Summary Encounter (NICU)](#E_Summary_Encounter_NICU) | entry | oid:2.16.840.1.113883.10.20.5.6.191 |
| [Summary Encounter (POM)](#E_Summary_Encounter_POM) | entry | oid:2.16.840.1.113883.10.20.5.6.193 |
| [Summary Encounter](#E_Summary_Encounter) | entry | oid:2.16.840.1.113883.10.20.5.6.184 |
| [Summary Encounter (VAT)](#E_Summary_Encounter_VAT) | entry | oid:2.16.840.1.113883.10.20.5.6.196 |
| [Summary Encounter Patient Presence (AUP)](#E_Summary_Encounter_Patient_Presence_AU) | entry | oid:2.16.840.1.113883.10.20.5.6.197 |
| [Suspected Source Observation](#E_Suspected_Source_Observation) | entry | oid:2.16.840.1.113883.10.20.5.6.168 |
| [Transient Patient Observation](#E_Transient_Patient_Observation) | entry | oid:2.16.840.1.113883.10.20.5.6.169 |
| [Trauma Observation](#E_Trauma_Observation) | entry | oid:2.16.840.1.113883.10.20.5.6.170 |
| [Urinary Catheter Observation](#E_Urinary_Catheter_Observation) | entry | oid:2.16.840.1.113883.10.20.5.6.171 |
| [Vascular Access Type Observation](#E_Vascular_Access_Type_Observation) | entry | oid:2.16.840.1.113883.10.20.5.6.172 |
| [Weight Observation](#E_Weight_Observation) | entry | oid:2.16.840.1.113883.10.20.5.6.173 |
| [Wound Class Observation](#E_Wound_Class_Observation) | entry | oid:2.16.840.1.113883.10.20.5.6.174 |

Table 312: Template Containments

| Template Title | Template Type | templateId |
| --- | --- | --- |
| [Antimicrobial Resistance Option (ARO) Summary Report](#Antimicrobial_Resistance_Option_ARO_Sum) | document | oid:2.16.840.1.113883.10.20.5.46 |
| [Summary Data Section (ARO)](#Summary_Data_Section_ARO) | section | oid:2.16.840.1.113883.10.20.5.5.52 |
| [Summary Encounter (ARO)](#E_Summary_Encounter_ARO_R1) | entry | oid:2.16.840.1.113883.10.20.5.6.199 |
| [Summary Data Observation](#E_Summary_Data_Observation) | entry | oid:2.16.840.1.113883.10.20.5.6.185 |
| [Antimicrobial Use (AUP) Summary Report](#Antimicrobial_Use_AUP_Summary_Report_R1) | document | oid:2.16.840.1.113883.10.20.5.44 |
| [Summary Data Section (AUP)](#S_Summary_Data_Section_AUP) | section | oid:2.16.840.1.113883.10.20.5.5.51 |
| [Summary Encounter (AUP)](#E_Summary_Encounter_AUP) | entry | oid:2.16.840.1.113883.10.20.5.6.198 |
| [Summary Data Observation (AUP)](#E_Summary_Data_Observation_AUP) | entry | oid:2.16.840.1.113883.10.20.5.6.194 |
| [Summary Data Observation](#E_Summary_Data_Observation) | entry | oid:2.16.840.1.113883.10.20.5.6.185 |
| [Summary Encounter Patient Presence (AUP)](#E_Summary_Encounter_Patient_Presence_AU) | entry | oid:2.16.840.1.113883.10.20.5.6.197 |
| [Summary Data Observation](#E_Summary_Data_Observation) | entry | oid:2.16.840.1.113883.10.20.5.6.185 |
| [HAI AUR Antimicrobial Resistance Option (ARO) Report](#HAI_AUR_Antimicrobial_Resistance_Option) | document | oid:2.16.840.1.113883.10.20.5.31 |
| [Findings Section in an ARO Report](#S_Findings_Section_in_an_ARO_Report) | section | oid:2.16.840.1.113883.10.20.5.5.32 |
| [Specimen Collection Procedure (ARO)](#E_Specimen_Collection_Procedure_ARO) | entry | oid:2.16.840.1.113883.10.20.5.6.188 |
| [Isolate Susceptibility Tests Organizer](#Isolate_Susceptibility_Tests_Organizer_) | entry | oid:2.16.840.1.113883.10.20.5.6.201 |
| [Antimicrobial Susceptibility Isolate Participant](#Antimicrobial_Susceptibility_Isolate_Pa) | entry | oid:2.16.840.1.113883.10.20.5.6.202 |
| [Antimicrobial Susceptibility Tests Organizer](#E_Antimicrobial_Susceptibility_Tests_Or) | entry | oid:2.16.840.1.113883.10.20.5.6.177 |
| [Antimicrobial Susceptibility Antibiotic](#E_Antimicrobial_Susceptibility_Antibiot) | entry | oid:2.16.840.1.113883.10.20.5.6.176 |
| [Antimicrobial Susceptibility Final Interpretation Result](#E_Antimicrobial_Susceptibility_Final_In) | entry | oid:2.16.840.1.113883.10.20.5.6.175 |
| [Antimicrobial Susceptibility Result Organizer](#Antimicrobial_Susceptibility_Result_Org) | entry | oid:2.16.840.1.113883.10.20.5.6.200 |
| [Antimicrobial Susceptibility Result Observation](#E_Antimicrobial_Susceptibility_Result_O) | entry | oid:2.16.840.1.113883.10.20.5.6.186 |
| [ARO Staph Aureus Specific Tests Organizer](#E_ARO_Staph_Aureus_Specific_Tests_Organ) | entry | oid:2.16.840.1.113883.10.20.5.6.190 |
| [ARO Staph Aureus Specific Tests Result Observation](#E_ARO_Staph_Aureus_Specific_Tests_Resul) | entry | oid:2.16.840.1.113883.10.20.5.6.189 |
| [Specimen Collection Encounter (ARO)](#Specimen_Collection_Encounter_ARO) | entry | oid:2.16.840.1.113883.10.20.5.6.187 |
| [HAI Bloodstream Infection Report (BSI)](#HAI_Bloodstream_Infection_Report_BSI_R1) | document | oid:2.16.840.1.113883.10.20.5.32 |
| [Findings Section in an Infection-Type Report](#S_Findings_Section_in_an_InfectionType_) | section | oid:2.16.840.1.113883.10.20.5.5.45 |
| [Findings Organizer](#E_Findings_Organizer) | entry | oid:2.16.840.1.113883.10.20.5.6.182 |
| [Drug-Susceptibility Test Observation](#E_DrugSusceptibility_Test_Observation) | entry | oid:2.16.840.1.113883.10.20.5.6.126 |
| [Pathogen Identified Observation](#E_Pathogen_Identified_Observation) | entry | oid:2.16.840.1.113883.10.20.5.6.145 |
| [Pathogen Ranking Observation](#E_Pathogen_Ranking_Observation) | entry | oid:2.16.840.1.113883.10.20.5.6.147 |
| [MDRO/CDI Observation](#E_MDROCDI_Observation) | entry | oid:2.16.840.1.113883.10.20.5.6.142 |
| [Pathogen Identified Observation](#E_Pathogen_Identified_Observation) | entry | oid:2.16.840.1.113883.10.20.5.6.145 |
| [Infection Details Section in a BSI Report](#S_Infection_Details_Section_in_a_BSI_Re) | section | oid:2.16.840.1.113883.10.20.5.5.38 |
| [Death Observation](#E_Death_Observation) | entry | oid:2.16.840.1.113883.10.20.5.6.120 |
| [Infection Contributed to Death Observation](#E_Infection_Contributed_to_Death_Observ) | entry | oid:2.16.840.1.113883.10.20.5.6.136 |
| [Infection-Type Observation](#E_InfectionType_Observation) | entry | oid:2.16.840.1.113883.10.20.5.6.139 |
| [Bloodstream Infection Evidence Type Observation](#E_Bloodstream_Infection_Evidence_Type_O) | entry | oid:2.16.840.1.113883.10.20.5.6.114 |
| [Criteria of Diagnosis Organizer](#E_Criteria_of_Diagnosis_Organizer) | entry | oid:2.16.840.1.113883.10.20.5.6.180 |
| [Criterion of Diagnosis Observation](#E_Criterion_of_Diagnosis_Observation) | entry | oid:2.16.840.1.113883.10.20.5.6.119 |
| [Infection Condition Observation](#E_Infection_Condition_Observation) | entry | oid:2.16.840.1.113883.10.20.5.6.135 |
| [Occasion of HAI Detection Observation](#E_Occasion_of_HAI_Detection_Observation) | entry | oid:2.16.840.1.113883.10.20.5.6.144 |
| [Secondary Bloodstream Infection Observation](#E_Secondary_Bloodstream_Infection_Obser) | entry | oid:2.16.840.1.113883.10.20.5.6.160 |
| [Post-Procedure Observation](#E_PostProcedure_Observation) | entry | oid:2.16.840.1.113883.10.20.5.6.150 |
| [Procedure Details Clinical Statement in an Infection-Type Report](#E_Procedure_Details_CS_in_an_InfectionT) | entry | oid:2.16.840.1.113883.10.20.5.6.154 |
| [Infection Risk Factors Section in a BSI Report](#S_Infection_Risk_Factors_Section_in_a_B) | section | oid:2.16.840.1.113883.10.20.5.5.33 |
| [Infection Risk Factors Measurement Observation](#E_Infection_Risk_Factors_Measurement_Ob) | entry | oid:2.16.840.1.113883.10.20.5.6.137 |
| [Infection Risk Factors Observation](#E_Infection_Risk_Factors_Observation) | entry | oid:2.16.840.1.113883.10.20.5.6.138 |
| [Device Insertion Time and Location Procedure](#E_Device_Insertion_Time_and_Location_Pr) | entry | oid:2.16.840.1.113883.10.20.5.6.122 |
| [HAI Central-Line Insertion Practice Numerator Report](#HAI_CentralLine_Insertion_Practice_NuR1) | document | oid:2.16.840.1.113883.10.20.5.36 |
| [Infection Risk Factors Section in a CLIP Report](#S_Infection_Risk_Factors_Section_in_a_C) | section | oid:2.16.840.1.113883.10.20.5.5.34 |
| [Central-Line Insertion Practice Clinical Statement](#E_CentralLine_Insertion_Practice_Clinic) | entry | oid:2.16.840.1.113883.10.20.5.6.116 |
| [Central-Line Insertion Preparation Organizer](#E_CentralLine_Insertion_Preparation_Org) | entry | oid:2.16.840.1.113883.10.20.5.6.179 |
| [Hand Hygiene Performed Clinical Statement](#E_Hand_Hygiene_Performed_Clinical_State) | entry | oid:2.16.840.1.113883.10.20.5.6.130 |
| [Skin-Preparation Solutions Applied Organizer](#E_SkinPreparation_Solutions_Applied_Org) | entry | oid:2.16.840.1.113883.10.20.5.6.183 |
| [Skin Preparation Clinical Statement](#E_Skin_Preparation_Clinical_Statement) | entry | oid:2.16.840.1.113883.10.20.5.6.162 |
| [Contraindicated Observation](#E_Contraindicated_Observation) | entry | oid:2.16.840.1.113883.10.20.5.6.118 |
| [Sterile Barriers Applied Clinical Statement](#E_Sterile_Barriers_Applied_Clinical_Sta) | entry | oid:2.16.840.1.113883.10.20.5.6.167 |
| [Solutions Dried Observation](#E_Solutions_Dried_Observation) | entry | oid:2.16.840.1.113883.10.20.5.6.163 |
| [Procedure Details Section in a CLIP Report](#S_Procedure_Details_Section_in_a_CLIP_R) | section | oid:2.16.840.1.113883.10.20.5.5.42 |
| [Procedure Details Clinical Statement in a CLIP Report](#E_Procedure_Details_CS_in_a_CLIP_Report) | entry | oid:2.16.840.1.113883.10.20.5.6.155 |
| [PICC/IV Team](#E_PICCIV_Team) | entry | oid:2.16.840.1.113883.10.20.5.6.148 |
| [Reason for Procedure Observation](#E_Reason_for_Procedure_Observation) | entry | oid:2.16.840.1.113883.10.20.5.6.158 |
| [Guidewire Used Clinical Statement](#E_Guidewire_Used_Clinical_Statement) | entry | oid:2.16.840.1.113883.10.20.5.6.129 |
| [Recorder Observation](#E_Recorder_Observation) | entry | oid:2.16.840.1.113883.10.20.5.6.159 |
| [HAI Evidence of Infection (Dialysis) Report (V2)](#D_HAI_Evidence_of_Infection_Dialysis_V2) | document | oid:2.16.840.1.113883.10.20.5.37.2 |
| [Details Section in an Evidence of Infection (Dialysis) Report (V2)](#S_Details_Section_in_an_Evidence_of_V2) | section | oid:2.16.840.1.113883.10.20.5.5.41.2 |
| [Criteria of Diagnosis Organizer](#E_Criteria_of_Diagnosis_Organizer) | entry | oid:2.16.840.1.113883.10.20.5.6.180 |
| [Criterion of Diagnosis Observation](#E_Criterion_of_Diagnosis_Observation) | entry | oid:2.16.840.1.113883.10.20.5.6.119 |
| [Death Observation in an Evidence of Infection (Dialysis) Report](#E_Death_Observation_in_an_Evidence_of_I) | entry | oid:2.16.840.1.113883.10.20.5.6.121 |
| [Dialysis Clinic Admission Clinical Statement](#E_Dialysis_Clinic_Admission_Clinical_St) | entry | oid:2.16.840.1.113883.10.20.5.6.124 |
| [Hospital Admission Clinical Statement](#E_Hospital_Admission_Clinical_Statement) | entry | oid:2.16.840.1.113883.10.20.5.6.133 |
| [Infection Indicator Organizer](#E_Infection_Indicator_Organizer) | entry | oid:2.16.840.1.113883.10.20.5.6.181 |
| [IV Antibiotic Start Clinical Statement](#E_IV_Antibiotic_Start_Clinical_Statemen) | entry | oid:2.16.840.1.113883.10.20.5.6.140 |
| [IV Antifungal Start Clinical Statement](#E_IV_Antifungal_Start_Clinical_Statemen) | entry | oid:2.16.840.1.113883.10.20.5.6.141 |
| [Positive Blood Culture Observation](#E_Positive_Blood_Culture_Observation) | entry | oid:2.16.840.1.113883.10.20.5.6.149 |
| [Suspected Source Observation](#E_Suspected_Source_Observation) | entry | oid:2.16.840.1.113883.10.20.5.6.168 |
| [Imputability Observation](#E_Imputability_Observation) | entry | oid:2.16.840.1.113883.10.20.5.6.134 |
| [Pus, Redness, or Increased Swelling Observation](#E_Pus_Redness_or_Increased_Swelling_Obs) | entry | oid:2.16.840.1.113883.10.20.5.6.157 |
| [Loss of Vascular Access Observation](#E_Loss_of_Vascular_Access_Observation) | entry | oid:2.16.840.1.113883.10.20.5.6.203 |
| [Findings Section in an Infection-Type Report](#S_Findings_Section_in_an_InfectionType_) | section | oid:2.16.840.1.113883.10.20.5.5.45 |
| [Findings Organizer](#E_Findings_Organizer) | entry | oid:2.16.840.1.113883.10.20.5.6.182 |
| [Drug-Susceptibility Test Observation](#E_DrugSusceptibility_Test_Observation) | entry | oid:2.16.840.1.113883.10.20.5.6.126 |
| [Pathogen Identified Observation](#E_Pathogen_Identified_Observation) | entry | oid:2.16.840.1.113883.10.20.5.6.145 |
| [Pathogen Ranking Observation](#E_Pathogen_Ranking_Observation) | entry | oid:2.16.840.1.113883.10.20.5.6.147 |
| [MDRO/CDI Observation](#E_MDROCDI_Observation) | entry | oid:2.16.840.1.113883.10.20.5.6.142 |
| [Pathogen Identified Observation](#E_Pathogen_Identified_Observation) | entry | oid:2.16.840.1.113883.10.20.5.6.145 |
| [Risk Factors Section in an Evidence of Infection (Dialysis) Report](#S_Risk_Factors_Section_in_an_Evidence_o) | section | oid:2.16.840.1.113883.10.20.5.5.37 |
| [Dialysis Patient Observation](#E_Dialysis_Patient_Observation) | entry | oid:2.16.840.1.113883.10.20.5.6.125 |
| [Transient Patient Observation](#E_Transient_Patient_Observation) | entry | oid:2.16.840.1.113883.10.20.5.6.169 |
| [Vascular Access Type Observation](#E_Vascular_Access_Type_Observation) | entry | oid:2.16.840.1.113883.10.20.5.6.172 |
| [Buttonhole Cannulation Observation](#E_Buttonhole_Cannulation_Observation) | entry | oid:2.16.840.1.113883.10.20.5.6.115 |
| [HAI Laboratory-Identified Organism (LIO) Report](#D_HAI_LaboratoryIdentified_Organism_LIO) | document | oid:2.16.840.1.113883.10.20.5.38 |
| [Encounters Section in a LIO Report](#S_Encounters_Section_in_a_LIO_Report) | section | oid:2.16.840.1.113883.10.20.5.5.44 |
| [Prior Discharge Encounter](#E_Prior_Discharge_Encounter) | entry | oid:2.16.840.1.113883.10.20.5.6.151 |
| [Findings Section in a LIO Report](#S_Findings_Section_in_a_LIO_Report) | section | oid:2.16.840.1.113883.10.20.5.5.46 |
| [Pathogen Identified Observation (LIO)](#E_Pathogen_Identified_Observation_LIO) | entry | oid:2.16.840.1.113883.10.20.5.6.146 |
| [Specimen Collection Procedure (LIO)](#E_Specimen_Collection_Procedure_LIO) | entry | oid:2.16.840.1.113883.10.20.5.6.165 |
| [Specimen Collection Encounter (LIO)](#E_Specimen_Collection_Encounter_LIO) | entry | oid:2.16.840.1.113883.10.20.5.6.164 |
| [Significant Pathogens Observation](#E_Significant_Pathogens_Observation) | entry | oid:2.16.840.1.113883.10.20.5.6.161 |
| [HAI Population Summary Report Generic Constraints](#D_HAI_Population_Summary_Report_Generic) | document | oid:2.16.840.1.113883.10.20.5.4.28 |
| [HAI Procedure Denominator Report (V2)](#D_HAI_Procedure_Denominator_Report_V2) | document | oid:2.16.840.1.113883.10.20.5.35.2 |
| [Infection Risk Factors Section in a Procedure Report](#S_Infection_Risk_Factors_Section_in_a_P) | section | oid:2.16.840.1.113883.10.20.5.5.35 |
| [ASA Class Observation](#E_ASA_Class_Observation) | entry | oid:2.16.840.1.113883.10.20.5.6.113 |
| [Diabetes Mellitus Observation](#E_Diabetes_Mellitus_Observation) | entry | oid:2.16.840.1.113883.10.20.5.6.123 |
| [Duration of Labor Observation](#E_Duration_of_Labor_Observation) | entry | oid:2.16.840.1.113883.10.20.5.6.127 |
| [Height Observation](#E_Height_Observation) | entry | oid:2.16.840.1.113883.10.20.5.6.131 |
| [Procedure Risk Factors Clinical Statement in a Procedure Report](#E_Procedure_Risk_Factors_Clinical_State) | entry | oid:2.16.840.1.113883.10.20.5.6.156 |
| [Endoscope Used Clinical Statement](#E_Endoscope_Used_Clinical_Statement) | entry | oid:2.16.840.1.113883.10.20.5.6.128 |
| [Wound Class Observation](#E_Wound_Class_Observation) | entry | oid:2.16.840.1.113883.10.20.5.6.174 |
| [Trauma Observation](#E_Trauma_Observation) | entry | oid:2.16.840.1.113883.10.20.5.6.170 |
| [Weight Observation](#E_Weight_Observation) | entry | oid:2.16.840.1.113883.10.20.5.6.173 |
| [Procedure Details Section in a Procedure Report (V2)](#Procedure_Details_Section_in_a_Procedur) | section | oid:2.16.840.1.113883.10.20.5.5.43.2 |
| [Procedure Details Clinical Statement in a Procedure Report (V2)](#Procedure_Details_Clinical_Statement_in) | entry | oid:2.16.840.1.113883.10.20.5.6.153.2 |
| [Anesthesia Administration Clinical Statement](#E_Anesthesia_Administration_Clinical_St) | entry | oid:2.16.840.1.113883.10.20.5.6.112 |
| [Closure Technique Procedure](#E_Closure_Technique_Procedure) | entry | oid:2.16.840.1.113883.10.20.5.6.117 |
| [Revision Associated with Prior Infection Observation](#Revision_Associated_with_Prior_Infectio) | entry | oid:2.16.840.1.113883.10.20.5.6.204 |
| [Spinal Fusion Level Observation](#E_Spinal_Fusion_Level_Observation) | entry | oid:2.16.840.1.113883.10.20.5.6.166 |
| [HAI Single-Person Report Generic Constraints](#D_HAI_SinglePerson_Report_Generic_Const) | document | oid:2.16.840.1.113883.10.20.5.4.27 |
| [HAI Surgical Site Infection Report (SSI) (V2)](#D_HAI_Surgical_Site_Infection_Report_V2) | document | oid:2.16.840.1.113883.10.20.5.33.2 |
| [Findings Section in an Infection-Type Report](#S_Findings_Section_in_an_InfectionType_) | section | oid:2.16.840.1.113883.10.20.5.5.45 |
| [Findings Organizer](#E_Findings_Organizer) | entry | oid:2.16.840.1.113883.10.20.5.6.182 |
| [Drug-Susceptibility Test Observation](#E_DrugSusceptibility_Test_Observation) | entry | oid:2.16.840.1.113883.10.20.5.6.126 |
| [Pathogen Identified Observation](#E_Pathogen_Identified_Observation) | entry | oid:2.16.840.1.113883.10.20.5.6.145 |
| [Pathogen Ranking Observation](#E_Pathogen_Ranking_Observation) | entry | oid:2.16.840.1.113883.10.20.5.6.147 |
| [MDRO/CDI Observation](#E_MDROCDI_Observation) | entry | oid:2.16.840.1.113883.10.20.5.6.142 |
| [Pathogen Identified Observation](#E_Pathogen_Identified_Observation) | entry | oid:2.16.840.1.113883.10.20.5.6.145 |
| [Infection Details Section in an SSI Report (V2)](#S_Infection_Details_Section_in_an_SSI_V2) | section | oid:2.16.840.1.113883.10.20.5.5.39.2 |
| [Death Observation](#E_Death_Observation) | entry | oid:2.16.840.1.113883.10.20.5.6.120 |
| [Infection Contributed to Death Observation](#E_Infection_Contributed_to_Death_Observ) | entry | oid:2.16.840.1.113883.10.20.5.6.136 |
| [Infection Present at the Time of Surgery Observation](#E_Infection_Present_at_the_Time_of_Surg) | entry | oid:2.16.840.1.113883.10.20.5.6.205 |
| [Infection-Type Observation](#E_InfectionType_Observation) | entry | oid:2.16.840.1.113883.10.20.5.6.139 |
| [Bloodstream Infection Evidence Type Observation](#E_Bloodstream_Infection_Evidence_Type_O) | entry | oid:2.16.840.1.113883.10.20.5.6.114 |
| [Criteria of Diagnosis Organizer](#E_Criteria_of_Diagnosis_Organizer) | entry | oid:2.16.840.1.113883.10.20.5.6.180 |
| [Criterion of Diagnosis Observation](#E_Criterion_of_Diagnosis_Observation) | entry | oid:2.16.840.1.113883.10.20.5.6.119 |
| [Infection Condition Observation](#E_Infection_Condition_Observation) | entry | oid:2.16.840.1.113883.10.20.5.6.135 |
| [Occasion of HAI Detection Observation](#E_Occasion_of_HAI_Detection_Observation) | entry | oid:2.16.840.1.113883.10.20.5.6.144 |
| [Secondary Bloodstream Infection Observation](#E_Secondary_Bloodstream_Infection_Obser) | entry | oid:2.16.840.1.113883.10.20.5.6.160 |
| [Procedure Details Clinical Statement in an Infection-Type Report](#E_Procedure_Details_CS_in_an_InfectionT) | entry | oid:2.16.840.1.113883.10.20.5.6.154 |
| [SSI Detected Using Toolkit Observation](#E_SSI_Detected_Using_Toolkit_Observation) | entry | oid:2.16.840.1.113883.10.20.5.6.206 |
| [HAI Urinary Tract Infection Numerator Report (UTI)](#D_HAI_Urinary_Tract_Infection_Numerator) | document | oid:2.16.840.1.113883.10.20.5.34 |
| [Findings Section in an Infection-Type Report](#S_Findings_Section_in_an_InfectionType_) | section | oid:2.16.840.1.113883.10.20.5.5.45 |
| [Findings Organizer](#E_Findings_Organizer) | entry | oid:2.16.840.1.113883.10.20.5.6.182 |
| [Drug-Susceptibility Test Observation](#E_DrugSusceptibility_Test_Observation) | entry | oid:2.16.840.1.113883.10.20.5.6.126 |
| [Pathogen Identified Observation](#E_Pathogen_Identified_Observation) | entry | oid:2.16.840.1.113883.10.20.5.6.145 |
| [Pathogen Ranking Observation](#E_Pathogen_Ranking_Observation) | entry | oid:2.16.840.1.113883.10.20.5.6.147 |
| [MDRO/CDI Observation](#E_MDROCDI_Observation) | entry | oid:2.16.840.1.113883.10.20.5.6.142 |
| [Pathogen Identified Observation](#E_Pathogen_Identified_Observation) | entry | oid:2.16.840.1.113883.10.20.5.6.145 |
| [Infection Details Section in a UTI Report](#S_Infection_Details_Section_in_a_UTI_Re) | section | oid:2.16.840.1.113883.10.20.5.5.40 |
| [Death Observation](#E_Death_Observation) | entry | oid:2.16.840.1.113883.10.20.5.6.120 |
| [Infection Contributed to Death Observation](#E_Infection_Contributed_to_Death_Observ) | entry | oid:2.16.840.1.113883.10.20.5.6.136 |
| [Infection-Type Observation](#E_InfectionType_Observation) | entry | oid:2.16.840.1.113883.10.20.5.6.139 |
| [Bloodstream Infection Evidence Type Observation](#E_Bloodstream_Infection_Evidence_Type_O) | entry | oid:2.16.840.1.113883.10.20.5.6.114 |
| [Criteria of Diagnosis Organizer](#E_Criteria_of_Diagnosis_Organizer) | entry | oid:2.16.840.1.113883.10.20.5.6.180 |
| [Criterion of Diagnosis Observation](#E_Criterion_of_Diagnosis_Observation) | entry | oid:2.16.840.1.113883.10.20.5.6.119 |
| [Infection Condition Observation](#E_Infection_Condition_Observation) | entry | oid:2.16.840.1.113883.10.20.5.6.135 |
| [Occasion of HAI Detection Observation](#E_Occasion_of_HAI_Detection_Observation) | entry | oid:2.16.840.1.113883.10.20.5.6.144 |
| [Secondary Bloodstream Infection Observation](#E_Secondary_Bloodstream_Infection_Obser) | entry | oid:2.16.840.1.113883.10.20.5.6.160 |
| [Post-Procedure Observation](#E_PostProcedure_Observation) | entry | oid:2.16.840.1.113883.10.20.5.6.150 |
| [Procedure Details Clinical Statement in an Infection-Type Report](#E_Procedure_Details_CS_in_an_InfectionT) | entry | oid:2.16.840.1.113883.10.20.5.6.154 |
| [Infection Risk Factors Section in a UTI Report](#S_Infection_Risk_Factors_Section_in_a_U) | section | oid:2.16.840.1.113883.10.20.5.5.36 |
| [Urinary Catheter Observation](#E_Urinary_Catheter_Observation) | entry | oid:2.16.840.1.113883.10.20.5.6.171 |
| [Device Insertion Time and Location Procedure](#E_Device_Insertion_Time_and_Location_Pr) | entry | oid:2.16.840.1.113883.10.20.5.6.122 |
| [History of Object Presence Observation](#E_History_of_Object_Presence_Observatio) | entry | oid:2.16.840.1.113883.10.20.5.6.132 |
| [Healthcare Associated Infection Report](#D_Healthcare_Associated_Infection_Repor) | document | oid:2.16.840.1.113883.10.20.5.4.25 |
| [Intensive Care Unit (ICU) Summary Report](#D_Intensive_Care_Unit_ICU_Summary_Repor) | document | oid:2.16.840.1.113883.10.20.5.40 |
| [Summary Data Section](#S_Summary_Data_Section) | section | oid:2.16.840.1.113883.10.20.5.5.47 |
| [Summary Encounter](#E_Summary_Encounter) | entry | oid:2.16.840.1.113883.10.20.5.6.184 |
| [Summary Data Observation](#E_Summary_Data_Observation) | entry | oid:2.16.840.1.113883.10.20.5.6.185 |
| [Neonatal Intensive Care Unit (NICU) Summary Report](#D_Neonatal_Intensive_Care_Unit_NICU_Sum) | document | oid:2.16.840.1.113883.10.20.5.41 |
| [Summary Data Section (NICU)](#S_Summary_Data_Section_NICU) | section | oid:2.16.840.1.113883.10.20.5.5.48 |
| [Summary Encounter (NICU)](#E_Summary_Encounter_NICU) | entry | oid:2.16.840.1.113883.10.20.5.6.191 |
| [Summary Data Observation](#E_Summary_Data_Observation) | entry | oid:2.16.840.1.113883.10.20.5.6.185 |
| [Prevention Process and Outcome Measures (POM) Summary Report](#D_Prevention_Process_and_Outcome_Measur) | document | oid:2.16.840.1.113883.10.20.5.43 |
| [Summary Data Section (POM)](#S_Summary_Data_Section_POM) | section | oid:2.16.840.1.113883.10.20.5.5.49 |
| [Summary Encounter (POM)](#E_Summary_Encounter_POM) | entry | oid:2.16.840.1.113883.10.20.5.6.193 |
| [Summary Data Observation (POM)](#E_Summary_Data_Observation_POM) | entry | oid:2.16.840.1.113883.10.20.5.6.192 |
| [Summary Data Observation](#E_Summary_Data_Observation) | entry | oid:2.16.840.1.113883.10.20.5.6.185 |
| [Specialty Care Area (SCA) Summary Report](#D_Specialty_Care_Area_SCA_Summary_Repor) | document | oid:2.16.840.1.113883.10.20.5.42 |
| [Summary Data Section](#S_Summary_Data_Section) | section | oid:2.16.840.1.113883.10.20.5.5.47 |
| [Summary Encounter](#E_Summary_Encounter) | entry | oid:2.16.840.1.113883.10.20.5.6.184 |
| [Summary Data Observation](#E_Summary_Data_Observation) | entry | oid:2.16.840.1.113883.10.20.5.6.185 |
| [Vascular Access Type Report (VAT) Summary Report](#D_Vascular_Access_Type_Report_VAT_Summa) | document | oid:2.16.840.1.113883.10.20.5.45 |
| [Summary Data Section (VAT)](#S_Summary_Data_Section_VAT) | section | oid:2.16.840.1.113883.10.20.5.5.50 |
| [Summary Encounter (VAT)](#E_Summary_Encounter_VAT) | entry | oid:2.16.840.1.113883.10.20.5.6.196 |
| [Summary Data Observation (VAT)](#E_Summary_Data_Observation_VAT) | entry | oid:2.16.840.1.113883.10.20.5.6.195 |
| [Summary Data Observation](#E_Summary_Data_Observation) | entry | oid:2.16.840.1.113883.10.20.5.6.185 |
| [HAI Section Generic Constraints](#S_HAI_Section_Generic_Constraints) | section | oid:2.16.840.1.113883.10.20.5.4.26 |

# Value Sets In This Guide

Table 313: Value Sets

| Name | OID | URL |
| --- | --- | --- |
| [Administrative Gender (HL7 V3)](#Administrative_Gender_HL7_V3) | 2.16.840.1.113883.1.11.1 | <http://www.hl7.org> |
| [Codes for Antimicrobial Resistance Option (ARO) Summary Data](#Codes_for_Antimicrobial_Resistance_Opti) | AROSummaryData | N/A |
| [Codes for Antimicrobial Usage, Pharmacy (AUP) Summary Data](#Codes_for_Antimicrobial_Usage_Pharmacy_) | AUPSummaryData | N/A |
| [Codes for Intensive Care Unit (ICU) Summary Data](#Codes_for_Intensive_Care_Unit_ICU_Summa) | ICUSummaryData | N/A |
| [Codes for Neonatal Intensive Care Unit (NICU) Summary Data](#Codes_for_Neonatal_Intensive_Care_Unit_) | NICUSummaryData | N/A |
| [Codes for Prevention Process and Outcome Measures (POM) Summary Data](#Codes_for_Prevention_Process_and_Outcom) | POMSummaryData | N/A |
| [Codes for Specialty Care Area (SCA) Summary Data](#Codes_for_Specialty_Care_Area_SCA_Summa) | SCASummaryData | N/A |
| [Codes for Vascular Access Type (Dialysis) Summary Data](#Codes_for_Vascular_Access_Type_Dialysis) | VATDialysisSummaryData | N/A |
| [EthnicityGroup](#EthnicityGroup) | 2.16.840.1.114222.4.11.837 | <http://phinvads.cdc.gov/vads/ViewValueSet.action?id=35D34BBC-617F-DD11-B38D-00188B398520> |
| [NHSNAntibioticSuscTest](#NHSNAntibioticSuscTest) | 2.16.840.1.114222.4.11.7161 | N/A |
| [NHSNAntimicrobialAgentAURPCode](#NHSNAntimicrobialAgentAURPCode) | 2.16.840.1.114222.4.11.3360 | <http://phinvads.cdc.gov> |
| [NHSNASAClassCode](#NHSNASAClassCode) | 2.16.840.1.113883.13.10 | N/A |
| [NHSNBloodStreamInfectionEvidenceTypeCode](#NHSNBloodStreamInfectionEvidenceTypeCod) | 2.16.840.1.113883.13.7 | N/A |
| [NHSNCatheterTypeCode](#NHSNCatheterTypeCode) | 2.16.840.1.114222.4.11.3185 | N/A |
| [NHSNClosureTechniqueCode](#NHSNClosureTechniqueCode) | 2.16.840.1.114222.4.11.6051 | N/A |
| [NHSNCriterionOfDiagnosisCode](#NHSNCriterionOfDiagnosisCode) | 2.16.840.1.114222.4.11.3195 | N/A |
| [NHSNDrugSusceptibilityFindingCode](#NHSNDrugSusceptibilityFindingCode) | 2.16.840.1.113883.13.13 | N/A |
| [NHSNDrugSusceptibilityTestsCode](#NHSNDrugSusceptibilityTestsCode) | 2.16.840.1.113883.13.15 | N/A |
| [NHSNEligibilityCode](#NHSNEligibilityCode) | 2.16.840.1.114222.4.11.3248 | N/A |
| [NHSNEncounterTypeCode](#NHSNEncounterTypeCode) | 2.16.840.1.113883.13.1 | N/A |
| [NHSNHealthcareServiceLocationCode](#NHSNHealthcareServiceLocationCode) | 2.16.840.1.113883.13.19 | N/A |
| [NHSNHipReplacementCode](#NHSNHipReplacementCode) | 2.16.840.1.113883.13.3 | N/A |
| [NHSNInfectionConditionCode](#NHSNInfectionConditionCode) | 2.16.840.1.114222.4.11.3196 | N/A |
| [NHSNInfectionRiskFactorsCode](#NHSNInfectionRiskFactorsCode) | 2.16.840.1.113883.13.6 | N/A |
| [NHSNInfectionTypeCode](#NHSNInfectionTypeCode) | 2.16.840.1.113883.13.20 | N/A |
| [NHSNInsertionSiteCode](#NHSNInsertionSiteCode) | 2.16.840.1.114222.4.11.3180 | N/A |
| [NHSNKneeReplacementCode](#NHSNKneeReplacementCode) | 2.16.840.1.113883.13.4 | N/A |
| [NHSNOccasionOfDetectionCode](#NHSNOccasionOfDetectionCode) | 2.16.840.1.113883.13.12 | N/A |
| [NHSNOrganismASTCode](#NHSNOrganismASTCode) | 2.16.840.1.114222.4.11.3283 | N/A |
| [NHSNPathogenCode](#NHSNPathogenCode) | 2.16.840.1.113883.13.16 | N/A |
| [NHSNPopulationCategoryCode](#NHSNPopulationCategoryCode) | 2.16.840.1.114222.4.11.3234 | N/A |
| [NHSNPopulationSummaryReportTypeCode](#NHSNPopulationSummaryReportTypeCode) | 2.16.840.1.114222.4.11.3595 | N/A |
| [NHSNProcedureCategoryCode](#NHSNProcedureCategoryCode) | 2.16.840.1.113883.13.17 | N/A |
| [NHSNRaceCategory](#NHSNRaceCategory) | 2.16.840.1.114222.4.11.7232 | <https://phinvads.cdc.gov> |
| [NHSNReasonForInsertionCode](#NHSNReasonForInsertionCode) | 2.16.840.1.114222.4.11.3182 | N/A |
| [NHSNRoleOfPerformerCode](#NHSNRoleOfPerformerCode) | 2.16.840.1.114222.4.11.3181 | N/A |
| [NHSNRouteOfAdminstrationAURPCode](#NHSNRouteOfAdminstrationAURPCode) | 2.16.840.1.114222.4.11.3361 | N/A |
| [NHSNSignificantPathogenCode](#NHSNSignificantPathogenCode) | 2.16.840.1.114222.4.11.3194 | N/A |
| [NHSNSkinPreparationCode](#NHSNSkinPreparationCode) | 2.16.840.1.114222.4.11.3183 | N/A |
| [NHSNSpecimenTypeCode](#NHSNSpecimenTypeCode) | 2.16.840.1.114222.4.11.3249 | N/A |
| [NHSNSpinalFusionApproachCode](#NHSNSpinalFusionApproachCode) | 2.16.840.1.113883.13.2 | N/A |
| [NHSNSpinalFusionLevelCode](#NHSNSpinalFusionLevelCode) | 2.16.840.1.113883.13.11 | N/A |
| [NHSNStaphAureusSpecificTest](#NHSNStaphAureusSpecificTest) | 2.16.840.1.114222.4.11.7160 | N/A |
| [NHSNSterileBarrierCode](#NHSNSterileBarrierCode) | 2.16.840.1.114222.4.11.3184 | N/A |
| [NHSNSuspectedSourceTypeCode](#NHSNSuspectedSourceTypeCode) | 2.16.840.1.114222.4.11.6008 | N/A |
| [NHSNTimingCode](#NHSNTimingCode) | 2.16.840.1.114222.4.11.3247 | N/A |
| [NHSNVascularAccessSiteCode](#NHSNVascularAccessSiteCode) | 2.16.840.1.114222.4.11.6042 | N/A |
| [NHSNVascularAccessTypeCode](#NHSNVascularAccessTypeCode) | 2.16.840.1.114222.4.11.6007 | N/A |
| [NHSNWoundClassCode](#NHSNWoundClassCode) | 2.16.840.1.113883.13.9 | N/A |
| [ProcedureAct statusCode](#ProcedureAct_statusCode) | 2.16.840.1.113883.11.20.9.22 | N/A |

# Code Systems in This Guide

Table 314: Code Systems

| Name | OID |
| --- | --- |
| ActCode | 2.16.840.1.113883.5.4 |
| ActMood | 2.16.840.1.113883.5.1001 |
| ActStatus | 2.16.840.1.113883.5.14 |
| AdministrativeGender | 2.16.840.1.113883.5.1 |
| cdcNHSN | 2.16.840.1.113883.6.277 |
| ConfidentialityCode | 2.16.840.1.113883.5.25 |
| EntityClass | 2.16.840.1.113883.5.41 |
| Healthcare Provider Taxonomy (HIPAA) | 2.16.840.1.113883.6.101 |
| HL7 Context Control Code | 2.16.840.1.113883.5.1057 |
| HL7 HealthcareServiceLocation | 2.16.840.1.113883.6.259 |
| HL7ActClass | 2.16.840.1.113883.5.6 |
| HL7ActRelationshipType | 2.16.840.1.113883.5.1002 |
| HL7NullFlavor | 2.16.840.1.113883.5.1008 |
| HL7ObservationInterpretation | 2.16.840.1.113883.5.83 |
| HL7ParticipationType | 2.16.840.1.113883.5.90 |
| LOINC | 2.16.840.1.113883.6.1 |
| Race & Ethnicity - CDC | 2.16.840.1.113883.6.238 |
| RoleClass | 2.16.840.1.113883.5.110 |
| RxNorm | 2.16.840.1.113883.6.88 |
| SNOMED CT | 2.16.840.1.113883.6.96 |