



**HL7 Implementation Guide for CDA® Release 2—Level 3:  
NHSN Healthcare Associated Infection (HAI) Reports  
Release 2, DSTU Release 2.1—US Realm**

**Volume 2—Templates and Supporting Material**

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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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# 1 DOCUMENT-LEVEL TEMPLATES

## 1.1 *Healthcare Associated Infection Report*

[ClinicalDocument: identifier urn: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**

<b>XPath</b>	<b>Card.</b>	<b>Verb</b>	<b>Data Type</b>	<b>CONF#</b>	<b>Value</b>
ClinicalDocument (identifier: urn:oid:2.16.840.1.113883.10.20.5.4.25)					
realmCode	1..1	SHALL		<a href="#">86-18431</a>	
@code	1..1	SHALL	CD	<a href="#">86-18432</a>	US
typeId	1..1	SHALL		<a href="#">86-18463</a>	
@root	1..1	SHALL		<a href="#">86-18464</a>	2.16.840.1.113883.1.3
@extension	1..1	SHALL		<a href="#">86-18465</a>	POCD_HD000040
templateId	1..1	SHALL		<a href="#">86-18460</a>	
@root	1..1	SHALL		<a href="#">86-18461</a>	2.16.840.1.113883.10.20.5.4.25
@extension	0..0	SHALL NOT		<a href="#">86-18462</a>	
id	1..1	SHALL		<a href="#">86-18466</a>	
@root	0..1	MAY		<a href="#">86-18467</a>	
@extension	0..1	MAY		<a href="#">86-18468</a>	
code	1..1	SHALL		<a href="#">86-18433</a>	
@code	1..1	SHALL		<a href="#">86-18434</a>	51897-7
@codeSystem	1..1	SHALL		<a href="#">86-27413</a>	2.16.840.1.113883.6.1 (LOINC)
title	1..1	SHALL		<a href="#">86-18435</a>	
effectiveTime	1..1	SHALL		<a href="#">86-18436</a>	
confidentialityCode	1..1	SHALL		<a href="#">86-18437</a>	
@code	1..1	SHALL	CD	<a href="#">86-18438</a>	2.16.840.1.113883.5.25 (ConfidentialityCode) = N
languageCode	1..1	SHALL		<a href="#">86-18439</a>	
@code	1..1	SHALL		<a href="#">86-18440</a>	en-US
setId	1..1	SHALL		<a href="#">86-18441</a>	

versionNumber	1..1	SHALL		<a href="#">86-18442</a>	
recordTarget	1..*	SHALL		<a href="#">86-18472</a>	
author	1..*	SHALL		<a href="#">86-18473</a>	
custodian	1..1	SHALL		<a href="#">86-18443</a>	
assignedCustodian	1..1	SHALL		<a href="#">86-18444</a>	
representedCustodianOrganization	1..1	SHALL		<a href="#">86-18445</a>	
id	1..1	SHALL		<a href="#">86-18446</a>	
@root	1..1	SHALL		<a href="#">86-18447</a>	2.16.840.1.114222.4.3.2.11
legalAuthenticator	0..1	SHOULD		<a href="#">86-18474</a>	
relatedDocument	0..*	MAY		<a href="#">86-18469</a>	
@typeCode	1..1	SHALL		<a href="#">86-18470</a>	2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = RPLC
component	1..1	SHALL		<a href="#">86-18448</a>	
structuredBody	1..1	SHALL		<a href="#">86-18449</a>	
component	1..*	SHALL		<a href="#">86-18475</a>	

1. **SHALL** contain exactly one [1..1] **realmCode** (CONF:86-18431).
  - a. This realmCode **SHALL** contain exactly one [1..1] **@code="US"** (CONF:86-18432).
2. **SHALL** contain exactly one [1..1] **typeId** (CONF:86-18463).
  - a. This typeId **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.1.3"** (CONF:86-18464).
  - b. This typeId **SHALL** contain exactly one [1..1] **@extension="POCD\_HD000040"** (CONF:86-18465).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:86-18460) such that it
  - a. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.5.4.25"** (CONF:86-18461).
  - b. **SHALL NOT** contain [0..0] **@extension** (CONF:86-18462).

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.

4. **SHALL** contain exactly one [1..1] **id** (CONF:86-18466).
  - a. This id **MAY** contain zero or one [0..1] **@root** (CONF:86-18467).
  - b. This id **MAY** contain zero or one [0..1] **@extension** (CONF:86-18468).
5. **SHALL** contain exactly one [1..1] **code** (CONF:86-18433).
  - a. This code **SHALL** contain exactly one [1..1] **@code**="51897-7" Healthcare Associated Infection Report (CONF:86-18434).
  - b. This code **SHALL** contain exactly one [1..1] **@codeSystem** (CodeSystem: LOINC 2.16.840.1.113883.6.1) (CONF:86-27413).

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

6. **SHALL** contain exactly one [1..1] **title** (CONF:86-18435).
7. **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:86-18436).

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.

8. **SHALL** contain exactly one [1..1] **confidentialityCode** (CONF:86-18437).
  - a. This confidentialityCode **SHALL** contain exactly one [1..1] **@code**="N" Normal (CodeSystem: ConfidentialityCode 2.16.840.1.113883.5.25 **STATIC**) (CONF:86-18438).
9. **SHALL** contain exactly one [1..1] **languageCode** (CONF:86-18439).
  - a. This languageCode **SHALL** contain exactly one [1..1] **@code**="en-US" (CONF:86-18440).
10. **SHALL** contain exactly one [1..1] **setId** (CONF:86-18441).
11. **SHALL** contain exactly one [1..1] **versionNumber** (CONF:86-18442).

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.

12. **SHALL** contain at least one [1..\*] **recordTarget** (CONF:86-18472).

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.

13. **SHALL** contain at least one [1..\*] **author** (CONF:86-18473).

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

14. **SHALL** contain exactly one [1..1] **custodian** (CONF:86-18443).

a. This custodian **SHALL** contain exactly one [1..1] **assignedCustodian** (CONF:86-18444).

i. This assignedCustodian **SHALL** contain exactly one [1..1] **representedCustodianOrganization** (CONF:86-18445).

1. This representedCustodianOrganization **SHALL** contain exactly one [1..1] **id** (CONF:86-18446).

a. This id **SHALL** contain exactly one [1..1]

**@root="2.16.840.1.114222.4.3.2.11"** (CONF:86-18447).

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.

15. **SHOULD** contain zero or one [0..1] **legalAuthenticator** (CONF:86-18474).

16. **MAY** contain zero or more [0..\*] **relatedDocument** (CONF:86-18469).

a. The relatedDocument, if present, **SHALL** contain exactly one [1..1] **@typeCode="RPLC"** replace (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002 **STATIC**) (CONF:86-18470).

b. If versionNumber/@value is greater than 1, a relatedDocument element **SHALL** be present (CONF:86-18471).

17. **SHALL** contain exactly one [1..1] **component** (CONF:86-18448).

a. This component **SHALL** contain exactly one [1..1] **structuredBody** (CONF:86-18449).

i. This structuredBody **SHALL** contain at least one [1..\*] **component** (CONF:86-18475).

ii. 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:86-18450).

### 1.1.1 HAI Population Summary Report Generic Constraints

[ClinicalDocument: identifier urn: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**

<b>XPath</b>	<b>Card.</b>	<b>Verb</b>	<b>Data Type</b>	<b>CONF#</b>	<b>Value</b>
ClinicalDocument (identifier: urn:oid:2.16.840.1.113883.10.20.5.4.28)					
templateId	1..1	SHALL		<a href="#">86-22431</a>	
@root	1..1	SHALL		<a href="#">86-22432</a>	2.16.840.1.113883.10.20.5.4.28
recordTarget	1..1	SHALL		<a href="#">86-22433</a>	
patientRole	1..1	SHALL		<a href="#">86-22434</a>	
id	1..1	SHALL		<a href="#">86-22435</a>	
@nullFlavor	1..1	SHALL		<a href="#">86-22436</a>	NA
participant	1..1	SHALL		<a href="#">86-22437</a>	
@typeCode	1..1	SHALL		<a href="#">86-22438</a>	2.16.840.1.113883.5.90 (HL7ParticipationType) = SBJ
@contextControlCode	1..1	SHALL	CS	<a href="#">86-22439</a>	2.16.840.1.113883.5.1057 (HL7 Context Control Code) = OP
associatedEntity	1..1	SHALL		<a href="#">86-22440</a>	
@classCode	1..1	SHALL		<a href="#">86-22441</a>	2.16.840.1.113883.5.41 (EntityClass) = PRS
code	1..1	SHALL		<a href="#">86-22442</a>	
@code	1..1	SHALL		<a href="#">86-22443</a>	2.16.840.1.113883.6.96 (SNOMED CT) = 389109008
participant	1..1	SHALL		<a href="#">86-22444</a>	
@typeCode	1..1	SHALL		<a href="#">86-22445</a>	2.16.840.1.113883.5.90 (HL7ParticipationType) = LOC
@contextControlCode	1..1	SHALL	CS	<a href="#">86-22446</a>	2.16.840.1.113883.5.1057 (HL7 Context Control Code) = OP
associatedEntity	1..1	SHALL		<a href="#">86-22447</a>	
@classCode	1..1	SHALL		<a href="#">86-22448</a>	2.16.840.1.113883.5.110 (RoleClass) = SDLOC
id	1..1	SHALL		<a href="#">86-22449</a>	
@root	1..1	SHALL		<a href="#">86-22450</a>	
documentationOf	1..1	SHALL		<a href="#">86-22451</a>	

serviceEvent	1..1	SHALL		<a href="#">86-22452</a>	
@classCode	1..1	SHALL		<a href="#">86-22453</a>	2.16.840.1.113883.5.6 (HL7ActClass) = CASE
code	1..1	SHALL		<a href="#">86-22454</a>	2.16.840.1.114222.4.11.3595 (NHSNPopulationSummaryReport TypeCode)
effectiveTime	1..1	SHALL		<a href="#">86-22456</a>	
low	1..1	SHALL		<a href="#">86-22457</a>	
high	1..1	SHALL		<a href="#">86-22458</a>	

1. Conforms to [Healthcare Associated Infection Report](#) template (identifier: urn:oid:2.16.840.1.113883.10.20.5.4.25).
2. **SHALL** contain exactly one [1..1] **templateId** (CONF:86-22431) such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.5.4.28" (CONF:86-22432).
3. **SHALL** contain exactly one [1..1] **recordTarget** (CONF:86-22433).
  - a. This recordTarget **SHALL** contain exactly one [1..1] **patientRole** (CONF:86-22434).
    - i. This patientRole **SHALL** contain exactly one [1..1] **id** (CONF:86-22435).
      1. This id **SHALL** contain exactly one [1..1] **@nullFlavor**="NA" not applicable (CONF:86-22436).
4. **SHALL** contain exactly one [1..1] **participant** (CONF:86-22437) such that it
  - a. **SHALL** contain exactly one [1..1] **@typeCode**="SBJ" Subject (CodeSystem: HL7ParticipationType 2.16.840.1.113883.5.90 **STATIC**) (CONF:86-22438).
  - b. **SHALL** contain exactly one [1..1] **@contextControlCode**="OP" (CodeSystem: HL7 Context Control Code 2.16.840.1.113883.5.1057 **STATIC**) (CONF:86-22439).
  - c. **SHALL** contain exactly one [1..1] **associatedEntity** (CONF:86-22440).
    - i. This associatedEntity **SHALL** contain exactly one [1..1] **@classCode**="PRS" Person (CodeSystem: EntityClass 2.16.840.1.113883.5.41 **STATIC**) (CONF:86-22441).
    - ii. This associatedEntity **SHALL** contain exactly one [1..1] **code** (CONF:86-22442).
      1. This code **SHALL** contain exactly one [1..1] **@code**="389109008" Group (CodeSystem: SNOMED CT 2.16.840.1.113883.6.96 **STATIC**) (CONF:86-22443).
5. **SHALL** contain exactly one [1..1] **participant** (CONF:86-22444) such that it
  - a. **SHALL** contain exactly one [1..1] **@typeCode**="LOC" Location (CodeSystem: HL7ParticipationType 2.16.840.1.113883.5.90 **STATIC**) (CONF:86-22445).
  - b. **SHALL** contain exactly one [1..1] **@contextControlCode**="OP" (CodeSystem: HL7 Context Control Code 2.16.840.1.113883.5.1057 **STATIC**) (CONF:86-22446).
  - c. **SHALL** contain exactly one [1..1] **associatedEntity** (CONF:86-22447).

- i. This associatedEntity **SHALL** contain exactly one [1..1] @classCode="SDLOC" Service delivery location (CodeSystem: RoleClass 2.16.840.1.113883.5.110 **STATIC**) (CONF:86-22448).
  - ii. This associatedEntity **SHALL** contain exactly one [1..1] id (CONF:86-22449).
    - 1. This id **SHALL** contain exactly one [1..1] @root (CONF:86-22450).
- 6. **SHALL** contain exactly one [1..1] documentationOf (CONF:86-22451).
  - a. This documentationOf **SHALL** contain exactly one [1..1] serviceEvent (CONF:86-22452).
    - i. This serviceEvent **SHALL** contain exactly one [1..1] @classCode="CASE" (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 **STATIC**) (CONF:86-22453).
    - ii. This serviceEvent **SHALL** contain exactly one [1..1] code, which **SHALL** be selected from ValueSet [NHSNPopulationSummaryReportTypeCode](#) 2.16.840.1.114222.4.11.3595 **STATIC** (CONF:86-22454).
    - iii. This serviceEvent **SHALL** contain exactly one [1..1] effectiveTime (CONF:86-22456).
      - 1. This effectiveTime **SHALL** contain exactly one [1..1] low (CONF:86-22457).
      - 2. This effectiveTime **SHALL** contain exactly one [1..1] high (CONF:86-22458).
- 7. The author **SHALL** represent the software forming the message (CONF:86-22459).

**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
1657-6	cdcNHSN	2.16.840.1.113883.6.277	Summary data reporting Outpatient procedure component events at a facility

### 1.1.2 Antimicrobial Resistance Option (ARO) Summary Report

[ClinicalDocument: identifier urn:oid:2.16.840.1.113883.10.20.5.46 (closed)]

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

Contained By:	Contains:
	<a href="#">Summary Data Section (ARO)</a>

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: urn:oid:2.16.840.1.113883.10.20.5.46)					
templateId	1..1	SHALL		<a href="#">86-28301</a>	
@root	1..1	SHALL		<a href="#">86-28302</a>	2.16.840.1.113883.10.20.5.7.1
templateId	1..1	SHALL		<a href="#">86-22969</a>	
@root	1..1	SHALL		<a href="#">86-2970</a>	2.16.840.1.113883.10.20.5.46
title	1..1	SHALL		<a href="#">86-22971</a>	Denominator for Antimicrobial Resistance Option (ARO)
documentationOf	1..1	SHALL		<a href="#">86-22972</a>	
serviceEvent	1..1	SHALL		<a href="#">86-22973</a>	
code	1..1	SHALL		<a href="#">86-22974</a>	
@code	1..1	SHALL		<a href="#">86-22975</a>	2410-9
@codeSystem	1..1	SHALL		<a href="#">86-22976</a>	2.16.840.1.113883.6.277 (cdcNHSN) = 2.16.840.1.113883.6.277
component	1..1	SHALL		<a href="#">86-22977</a>	
structuredBody	1..1	SHALL		<a href="#">86-22978</a>	
component	1..1	SHALL		<a href="#">86-22979</a>	
section	1..1	SHALL		<a href="#">86-22980</a>	<a href="#">Summary Data Section (ARO) (identifier: urn:oid:2.16.840.1.113883.10.20.5.5.52)</a>

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

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

2. **SHALL** contain exactly one [1..1] **templateId** (CONF:86-28301) such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.5.7.1" (CONF:86-28302).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:86-22969) such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.5.46" (CONF:86-2970).

4. **SHALL** contain exactly one [1..1] **title**="Denominator for Antimicrobial Resistance Option (ARO)" (CONF:86-22971).
5. **SHALL** contain exactly one [1..1] **documentationOf** (CONF:86-22972).
  - a. This **documentationOf** **SHALL** contain exactly one [1..1] **serviceEvent** (CONF:86-22973).
    - i. This **serviceEvent** **SHALL** contain exactly one [1..1] **code** (CONF:86-22974).
      1. This **code** **SHALL** contain exactly one [1..1] **@code**="2410-9" Summary data reporting antimicrobial resistance patterns at a facility (CONF:86-22975).
      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:86-22976).
6. **SHALL** contain exactly one [1..1] **component** (CONF:86-22977).
  - a. This **component** **SHALL** contain exactly one [1..1] **structuredBody** (CONF:86-22978).
    - i. This **structuredBody** **SHALL** contain exactly one [1..1] **component** (CONF:86-22979).
      1. This **component** **SHALL** contain exactly one [1..1] [Summary Data Section \(ARO\)](#) (identifier: urn:oid:2.16.840.1.113883.10.20.5.5.52) (CONF:86-22980).

### 1.1.3 Antimicrobial Use (AUP) Summary Report

[ClinicalDocument: identifier urn:oid:2.16.840.1.113883.10.20.5.44 (closed)]

**Table 6: Antimicrobial Use (AUP) Summary Report Contexts**

Contained By:	Contains:
	<a href="#">Summary Data Section (AUP)</a>

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: urn:oid:2.16.840.1.113883.10.20.5.44)					
templateId	1..1	SHALL		<a href="#">86-28303</a>	
@root	1..1	SHALL		<a href="#">86-28304</a>	2.16.840.1.113883.10.20.5.7.1
templateId	1..1	SHALL		<a href="#">86-22898</a>	
@root	1..1	SHALL		<a href="#">86-22899</a>	2.16.840.1.113883.10.20.5.44
title	1..1	SHALL		<a href="#">86-22900</a>	Antimicrobial Use, Pharmacy Option (AUP) Summary Report
documentationOf	1..1	SHALL		<a href="#">86-22901</a>	
serviceEvent	1..1	SHALL		<a href="#">86-22902</a>	
code	1..1	SHALL		<a href="#">86-22903</a>	
@code	1..1	SHALL		<a href="#">86-22904</a>	1887-9
@codeSystem	1..1	SHALL		<a href="#">86-22905</a>	2.16.840.1.113883.6.277 (cdcNHSN) = 2.16.840.1.113883.6.277
component	1..1	SHALL		<a href="#">86-22906</a>	
structuredBody	1..1	SHALL		<a href="#">86-22907</a>	
component	1..1	SHALL		<a href="#">86-22908</a>	
section	1..1	SHALL		<a href="#">86-22909</a>	<a href="#">Summary Data Section (AUP) (identifier: urn:oid:2.16.840.1.113883.10.20.5.5.51)</a>

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

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

2. **SHALL** contain exactly one [1..1] **templateId** (CONF:86-28303) such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.5.7.1" (CONF:86-28304).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:86-22898) such that it

- a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.5.44" (CONF:86-22899).
4. **SHALL** contain exactly one [1..1] **title**="Antimicrobial Use, Pharmacy Option (AUP) Summary Report" (CONF:86-22900).
5. **SHALL** contain exactly one [1..1] **documentationOf** (CONF:86-22901).
  - a. This documentationOf **SHALL** contain exactly one [1..1] **serviceEvent** (CONF:86-22902).
    - i. This serviceEvent **SHALL** contain exactly one [1..1] **code** (CONF:86-22903).
      1. This code **SHALL** contain exactly one [1..1] **@code**="1887-9" Summary data reporting antimicrobial usage (CONF:86-22904).
      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:86-22905).
6. **SHALL** contain exactly one [1..1] **component** (CONF:86-22906).
  - a. This component **SHALL** contain exactly one [1..1] **structuredBody** (CONF:86-22907).
    - i. This structuredBody **SHALL** contain exactly one [1..1] **component** (CONF:86-22908).
      1. This component **SHALL** contain exactly one [1..1] [Summary Data Section \(AUP\)](#) (identifier: urn:oid:2.16.840.1.113883.10.20.5.5.51) (CONF:86-22909).

#### 1.1.4 HAI Outpatient Procedure Component (OPC) Summary Report

[ClinicalDocument: identifier urn:oid:2.16.840.1.113883.10.20.5.48 (closed)]

**Table 8: HAI Outpatient Procedure Component (OPC) Summary Report Contexts**

Contained By:	Contains:
	<a href="#">Summary Data Section (OPC)</a>

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 Outpatient Procedure Component (OPC)”. The tables below show the data required at the time of publication.

The OPC Summary Report extends the simple pattern for Summary Encounter. Required data elements are recorded as entries within the Summary Encounter.



**Table 9: HAI Outpatient Procedure Component (OPC) Summary Report Constraints Overview**

XPath	Card.	Verb	Data Type	CONF#	Value
ClinicalDocument (identifier: urn:oid:2.16.840.1.113883.10.20.5.48)					
templateId	1..1	SHALL		<a href="#">1113-21970</a>	
@root	1..1	SHALL		<a href="#">1113-21971</a>	2.16.840.1.113883.10.20.5.7.2.2
templateId	1..1	SHALL		<a href="#">1113-21789</a>	
@root	1..1	SHALL		<a href="#">1113-21797</a>	2.16.840.1.113883.10.20.5.48
title	1..1	SHALL		<a href="#">1113-21798</a>	Denominator for Outpatient Procedure Component (OPC)
documentationOf	1..1	SHALL		<a href="#">1113-21790</a>	
serviceEvent	1..1	SHALL		<a href="#">1113-21791</a>	
code	1..1	SHALL		<a href="#">1113-21792</a>	
@code	1..1	SHALL		<a href="#">1113-21799</a>	1657-6
@codeSystem	1..1	SHALL		<a href="#">1113-21800</a>	2.16.840.1.113883.6.277 (cdcNHSN) = 2.16.840.1.113883.6.277
component	1..1	SHALL		<a href="#">1113-21793</a>	
structuredBody	1..1	SHALL		<a href="#">1113-21794</a>	
component	1..1	SHALL		<a href="#">1113-21795</a>	
section	1..1	SHALL		<a href="#">1113-21796</a>	<a href="#">Summary Data Section (OPC) (identifier: urn:oid:2.16.840.1.113883.10.20.5.5.56)</a>

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

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

2. **SHALL** contain exactly one [1..1] **templateId** (CONF:1113-21970) such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.5.7.2.2" (CONF:1113-21971).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:1113-21789) such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.5.48" (CONF:1113-21797).

4. **SHALL** contain exactly one [1..1] **title**="Denominator for Outpatient Procedure Component (OPC)" (CONF:1113-21798).
5. **SHALL** contain exactly one [1..1] **documentationOf** (CONF:1113-21790).
  - a. This **documentationOf** **SHALL** contain exactly one [1..1] **serviceEvent** (CONF:1113-21791).
    - i. This **serviceEvent** **SHALL** contain exactly one [1..1] **code** (CONF:1113-21792).
      1. This **code** **SHALL** contain exactly one [1..1] **@code**="1657-6" Summary data reporting outpatient procedure component events at a facility (CONF:1113-21799).
      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:1113-21800).
6. **SHALL** contain exactly one [1..1] **component** (CONF:1113-21793).
  - a. This **component** **SHALL** contain exactly one [1..1] **structuredBody** (CONF:1113-21794).
    - i. This **structuredBody** **SHALL** contain exactly one [1..1] **component** (CONF:1113-21795).
      1. This **component** **SHALL** contain exactly one [1..1] [Summary Data Section \(OPC\)](#) (identifier: urn:oid:2.16.840.1.113883.10.20.5.5.56) (CONF:1113-21796).

### 1.1.5 Intensive Care Unit (ICU) Summary Report (V2)

[ClinicalDocument: identifier urn:hl7ii:2.16.840.1.113883.10.20.5.40:2014-12-01 (closed)]

**Table 10: Intensive Care Unit (ICU) Summary Report (V2) Contexts**

Contained By:	Contains:
	<a href="#">Summary Data Section</a>

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 11: Intensive Care Unit (ICU) Summary Report (V2) Constraints Overview**

XPath	Card.	Verb	Data Type	CONF#	Value
ClinicalDocument (identifier: urn:hl7ii:2.16.840.1.113883.10.20.5.40:2014-12-01)					
templateId	1..1	SHALL		<a href="#">1129-28321</a>	
@root	1..1	SHALL		<a href="#">1129-28322</a>	2.16.840.1.113883.10.20.5.7.2.2.1
templateId	1..1	SHALL		<a href="#">1129-22793</a>	
@root	1..1	SHALL		<a href="#">1129-22794</a>	2.16.840.1.113883.10.20.5.40
@extension	1..1	SHALL		<a href="#">1129-30596</a>	2014-12-01
title	1..1	SHALL		<a href="#">1129-22799</a>	Denominator for Intensive Care Unit (ICU)/Other Locations (not NICU or SCA) Report
documentationOf	1..1	SHALL		<a href="#">1129-22800</a>	
serviceEvent	1..1	SHALL		<a href="#">1129-22801</a>	
code	1..1	SHALL		<a href="#">1129-22802</a>	
@code	1..1	SHALL		<a href="#">1129-22803</a>	1879-6
@codeSystem	1..1	SHALL		<a href="#">1129-22804</a>	2.16.840.1.113883.6.277 (cdcNHSN) = 2.16.840.1.113883.6.277
component	1..1	SHALL		<a href="#">1129-22795</a>	
structuredBody	1..1	SHALL		<a href="#">1129-22796</a>	
component	1..1	SHALL		<a href="#">1129-22797</a>	
section	1..1	SHALL		<a href="#">1129-22798</a>	<a href="#">Summary Data Section (identifier: urn:oid:2.16.840.1.113883.10.20.5.5.47)</a>

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

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

2. **SHALL** contain exactly one [1..1] **templateId** (CONF:1129-28321) such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.5.7.2.2.1" (CONF:1129-28322).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:1129-22793) such that it

- a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.5.40" (CONF:1129-22794).
  - b. **SHALL** contain exactly one [1..1] **@extension**="2014-12-01" (CONF:1129-30596).
- 4. **SHALL** contain exactly one [1..1] **title**="Denominator for Intensive Care Unit (ICU)/Other Locations (not NICU or SCA) Report" (CONF:1129-22799).
- 5. **SHALL** contain exactly one [1..1] **documentationOf** (CONF:1129-22800).
  - a. This documentationOf **SHALL** contain exactly one [1..1] **serviceEvent** (CONF:1129-22801).
    - i. This serviceEvent **SHALL** contain exactly one [1..1] **code** (CONF:1129-22802).
      - 1. This code **SHALL** contain exactly one [1..1] **@code**="1879-6" Summary data reporting catheter and ventilator use in an ICU (CONF:1129-22803).
      - 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:1129-22804).
- 6. **SHALL** contain exactly one [1..1] **component** (CONF:1129-22795).
  - a. This component **SHALL** contain exactly one [1..1] **structuredBody** (CONF:1129-22796).
    - i. This structuredBody **SHALL** contain exactly one [1..1] **component** (CONF:1129-22797).
      - 1. This component **SHALL** contain exactly one [1..1] [Summary Data Section](#) (identifier: urn:oid:2.16.840.1.113883.10.20.5.5.47) (CONF:1129-22798).

### 1.1.6 Neonatal Intensive Care Unit (NICU) Summary Report (V2)

[ClinicalDocument: identifier urn:hl7ii:2.16.840.1.113883.10.20.5.41:2014-12-01 (closed)]

**Table 12: Neonatal Intensive Care Unit (NICU) Summary Report (V2) Contexts**

Contained By:	Contains:
	<a href="#">Summary Data Section (NICU)</a>

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 13: Neonatal Intensive Care Unit (NICU) Summary Report (V2) Constraints Overview**

XPath	Card.	Verb	Data Type	CONF#	Value
ClinicalDocument (identifier: urn:hl7ii:2.16.840.1.113883.10.20.5.41:2014-12-01)					
templateId	1..1	SHALL		<a href="#">1129-28323</a>	
@root	1..1	SHALL		<a href="#">1129-28324</a>	2.16.840.1.113883.10.20.5.7.2.2.1
templateId	1..1	SHALL		<a href="#">1129-22805</a>	
@root	1..1	SHALL		<a href="#">1129-22806</a>	2.16.840.1.113883.10.20.5.41
@extension	1..1	SHALL		<a href="#">1129-30595</a>	2014-12-01
title	1..1	SHALL		<a href="#">1129-22807</a>	Denominator for Neonatal Intensive Care Unit (NICU)
documentationOf	1..1	SHALL		<a href="#">1129-22808</a>	
serviceEvent	1..1	SHALL		<a href="#">1129-22809</a>	
code	1..1	SHALL		<a href="#">1129-22810</a>	
@code	1..1	SHALL		<a href="#">1129-22811</a>	1881-2
@codeSystem	1..1	SHALL		<a href="#">1129-22812</a>	2.16.840.1.113883.6.277 (cdcNHSN) = 2.16.840.1.113883.6.277
component	1..1	SHALL		<a href="#">1129-22813</a>	
structuredBody	1..1	SHALL		<a href="#">1129-22814</a>	
component	1..1	SHALL		<a href="#">1129-22815</a>	
section	1..1	SHALL		<a href="#">1129-22816</a>	<a href="#">Summary Data Section (NICU) (identifier: urn:oid:2.16.840.1.113883.10.20.5.5.48)</a>

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

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

2. **SHALL** contain exactly one [1..1] **templateId** (CONF:1129-28323) such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.5.7.2.2.1" (CONF:1129-28324).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:1129-22805) such that it

- a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.5.41" (CONF:1129-22806).
  - b. **SHALL** contain exactly one [1..1] **@extension**="2014-12-01" (CONF:1129-30595).
4. **SHALL** contain exactly one [1..1] **title**="Denominator for Neonatal Intensive Care Unit (NICU)" (CONF:1129-22807).
5. **SHALL** contain exactly one [1..1] **documentationOf** (CONF:1129-22808).
  - a. This documentationOf **SHALL** contain exactly one [1..1] **serviceEvent** (CONF:1129-22809).
    - i. This serviceEvent **SHALL** contain exactly one [1..1] **code** (CONF:1129-22810).
      1. This code **SHALL** contain exactly one [1..1] **@code**="1881-2" Summary data reporting catheter and ventilator use in a NICU (CONF:1129-22811).
      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:1129-22812).
6. **SHALL** contain exactly one [1..1] **component** (CONF:1129-22813).
  - a. This component **SHALL** contain exactly one [1..1] **structuredBody** (CONF:1129-22814).
    - i. This structuredBody **SHALL** contain exactly one [1..1] **component** (CONF:1129-22815).
      1. This component **SHALL** contain exactly one [1..1] [Summary Data Section \(NICU\)](#) (identifier: urn:oid:2.16.840.1.113883.10.20.5.5.48) (CONF:1129-22816).

### 1.1.7 Prevention Process and Outcome Measures (POM) Summary Report (V2)

[ClinicalDocument: identifier urn:hl7ii:2.16.840.1.113883.10.20.5.43:2014-12-01 (closed)]

**Table 14: Prevention Process and Outcome Measures (POM) Summary Report (V2) Contexts**

Contained By:	Contains:
	<a href="#">Summary Data Section (POM) (V2)</a>

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 “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 15: Prevention Process and Outcome Measures (POM) Summary Report (V2) Constraints Overview**

XPath	Card.	Verb	Data Type	CONF#	Value
ClinicalDocument (identifier: urn:hl7ii:2.16.840.1.113883.10.20.5.43:2014-12-01)					
templateId	1..1	SHALL		<a href="#">1129-30549</a>	
@root	1..1	SHALL		<a href="#">1129-30550</a>	2.16.840.1.113883.10.20.5.7.2.2.1
templateId	1..1	SHALL		<a href="#">1129-22886</a>	
@root	1..1	SHALL		<a href="#">1129-22887</a>	2.16.840.1.113883.10.20.5.43
@extension	1..1	SHALL		<a href="#">1129-30476</a>	2014-12-01
title	1..1	SHALL		<a href="#">1129-22888</a>	Prevention Process and Outcome Measures (POM) Monthly Monitoring
documentationOf	1..1	SHALL		<a href="#">1129-22889</a>	
serviceEvent	1..1	SHALL		<a href="#">1129-22890</a>	
code	1..1	SHALL		<a href="#">1129-22891</a>	
@code	1..1	SHALL		<a href="#">1129-22892</a>	1884-6
@codeSystem	1..1	SHALL		<a href="#">1129-22893</a>	2.16.840.1.113883.6.277 (cdcNHSN) = 2.16.840.1.113883.6.277
component	1..1	SHALL		<a href="#">1129-22894</a>	
structuredBody	1..1	SHALL		<a href="#">1129-22895</a>	
component	1..1	SHALL		<a href="#">1129-22896</a>	
section	1..1	SHALL		<a href="#">1129-30433</a>	<a href="#">Summary Data Section (POM) (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.5.5.49:2014-12-01)</a>

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

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

2. **SHALL** contain exactly one [1..1] **templateId** (CONF:1129-30549) such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.5.7.2.2.1" (CONF:1129-30550).

3. **SHALL** contain exactly one [1..1] **templateId** (CONF:1129-22886) such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.5.43" (CONF:1129-22887).
  - b. **SHALL** contain exactly one [1..1] **@extension**="2014-12-01" (CONF:1129-30476).
4. **SHALL** contain exactly one [1..1] **title**="Prevention Process and Outcome Measures (POM) Monthly Monitoring" (CONF:1129-22888).
5. **SHALL** contain exactly one [1..1] **documentationOf** (CONF:1129-22889).
  - a. This documentationOf **SHALL** contain exactly one [1..1] **serviceEvent** (CONF:1129-22890).
    - i. This serviceEvent **SHALL** contain exactly one [1..1] **code** (CONF:1129-22891).
      1. This code **SHALL** contain exactly one [1..1] **@code**="1884-6" Summary data reporting Active Surveillance Testing (CONF:1129-22892).
      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:1129-22893).
6. **SHALL** contain exactly one [1..1] **component** (CONF:1129-22894).
  - a. This component **SHALL** contain exactly one [1..1] **structuredBody** (CONF:1129-22895).
    - i. This structuredBody **SHALL** contain exactly one [1..1] **component** (CONF:1129-22896).
      1. This component **SHALL** contain exactly one [1..1] [Summary Data Section \(POM\) \(V2\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.5.5.49:2014-12-01) (CONF:1129-30433).

### 1.1.8 Specialty Care Area (SCA) Summary Report (V2)

[ClinicalDocument: identifier urn:hl7ii:2.16.840.1.113883.10.20.5.42:2014-12-01 (closed)]

**Table 16: Specialty Care Area (SCA) Summary Report (V2) Contexts**

Contained By:	Contains:
	<a href="#">Summary Data Section</a>

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 17: Specialty Care Area (SCA) Summary Report (V2) Constraints Overview**

XPath	Card.	Verb	Data Type	CONF#	Value
ClinicalDocument (identifier: urn:hl7ii:2.16.840.1.113883.10.20.5.42:2014-12-01)					
templateId	1..1	SHALL		<a href="#">1129-28327</a>	
@root	1..1	SHALL		<a href="#">1129-28328</a>	2.16.840.1.113883.10.20.5.7.2.2.1
templateId	1..1	SHALL		<a href="#">1129-22843</a>	
@root	1..1	SHALL		<a href="#">1129-22844</a>	2.16.840.1.113883.10.20.5.42
@extension	1..1	SHALL		<a href="#">1129-30594</a>	2014-12-01
title	1..1	SHALL		<a href="#">1129-22845</a>	Denominator for Specialty Care Area (SCA)
documentationOf	1..1	SHALL		<a href="#">1129-22846</a>	
serviceEvent	1..1	SHALL		<a href="#">1129-22847</a>	
code	1..1	SHALL		<a href="#">1129-22848</a>	
@code	1..1	SHALL		<a href="#">1129-22849</a>	1880-4
@codeSystem	1..1	SHALL		<a href="#">1129-22850</a>	2.16.840.1.113883.6.277 (cdcNHSN) = 2.16.840.1.113883.6.277
component	1..1	SHALL		<a href="#">1129-22851</a>	
structuredBody	1..1	SHALL		<a href="#">1129-22852</a>	
component	1..1	SHALL		<a href="#">1129-22853</a>	
section	1..1	SHALL		<a href="#">1129-22854</a>	<a href="#">Summary Data Section (identifier: urn:oid:2.16.840.1.113883.10.20.5.5.47)</a>

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

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

2. **SHALL** contain exactly one [1..1] **templateId** (CONF:1129-28327) such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.5.7.2.2.1" (CONF:1129-28328).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:1129-22843) such that it

- a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.5.42" (CONF:1129-22844).
  - b. **SHALL** contain exactly one [1..1] **@extension**="2014-12-01" (CONF:1129-30594).
- 4. **SHALL** contain exactly one [1..1] **title**="Denominator for Specialty Care Area (SCA) " (CONF:1129-22845).
- 5. **SHALL** contain exactly one [1..1] **documentationOf** (CONF:1129-22846).
  - a. This documentationOf **SHALL** contain exactly one [1..1] **serviceEvent** (CONF:1129-22847).
    - i. This serviceEvent **SHALL** contain exactly one [1..1] **code** (CONF:1129-22848).
      - 1. This code **SHALL** contain exactly one [1..1] **@code**="1880-4" Summary data reporting catheter and ventilator use in a SCA (CONF:1129-22849).
      - 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:1129-22850).
- 6. **SHALL** contain exactly one [1..1] **component** (CONF:1129-22851).
  - a. This component **SHALL** contain exactly one [1..1] **structuredBody** (CONF:1129-22852).
    - i. This structuredBody **SHALL** contain exactly one [1..1] **component** (CONF:1129-22853).
      - 1. This component **SHALL** contain exactly one [1..1] [Summary Data Section](#) (identifier: urn:oid:2.16.840.1.113883.10.20.5.5.47) (CONF:1129-22854).

### 1.1.9 Vascular Access Type Report (VAT) Summary Report

[ClinicalDocument: identifier urn:oid:2.16.840.1.113883.10.20.5.45 (closed)]

**Table 18: Vascular Access Type Report (VAT) Summary Report Contexts**

Contained By:	Contains:
	<a href="#">Summary Data Section (VAT)</a>

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 19: Vascular Access Type Report (VAT) Summary Report Constraints Overview**

XPath	Card.	Verb	Data Type	CONF#	Value
ClinicalDocument (identifier: urn:oid:2.16.840.1.113883.10.20.5.45)					
templateId	1..1	SHALL		<a href="#">86-28329</a>	
@root	1..1	SHALL		<a href="#">86-28330</a>	2.16.840.1.113883.10.20.5.7.1
templateId	1..1	SHALL		<a href="#">86-22921</a>	
@root	1..1	SHALL		<a href="#">86-22922</a>	2.16.840.1.113883.10.20.5.45
title	1..1	SHALL		<a href="#">86-22923</a>	Maintenance Hemodialysis Patients Stratified by Vascular Access Type Report
documentationOf	1..1	SHALL		<a href="#">86-22924</a>	
serviceEvent	1..1	SHALL		<a href="#">86-22925</a>	
code	1..1	SHALL		<a href="#">86-22926</a>	
@code	1..1	SHALL		<a href="#">86-22927</a>	2316-8
@codeSystem	1..1	SHALL		<a href="#">86-22928</a>	2.16.840.1.113883.6.277 (cdcNHSN) = 2.16.840.1.113883.6.277
component	1..1	SHALL		<a href="#">86-22929</a>	
structuredBody	1..1	SHALL		<a href="#">86-22930</a>	
component	1..1	SHALL		<a href="#">86-22931</a>	
section	1..1	SHALL		<a href="#">86-22932</a>	<a href="#">Summary Data Section (VAT) (identifier: urn:oid:2.16.840.1.113883.10.20.5.5.50)</a>

1. Conforms to [HAI Population Summary Report Generic Constraints](#) template (identifier: urn:oid:2.16.840.1.113883.10.20.5.4.28).
2. **SHALL** contain exactly one [1..1] **templateId** (CONF:86-28329) such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.5.7.1" (CONF:86-28330).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:86-22921) such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.5.45" (CONF:86-22922).

4. **SHALL** contain exactly one [1..1] **title**="Maintenance Hemodialysis Patients Stratified by Vascular Access Type Report" (CONF:86-22923).
5. **SHALL** contain exactly one [1..1] **documentationOf** (CONF:86-22924).
  - a. This **documentationOf SHALL** contain exactly one [1..1] **serviceEvent** (CONF:86-22925).
    - i. This **serviceEvent SHALL** contain exactly one [1..1] **code** (CONF:86-22926).
      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:86-22927).
      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:86-22928).
6. **SHALL** contain exactly one [1..1] **component** (CONF:86-22929).
  - a. This **component SHALL** contain exactly one [1..1] **structuredBody** (CONF:86-22930).
    - i. This **structuredBody SHALL** contain exactly one [1..1] **component** (CONF:86-22931).
      1. This **component SHALL** contain exactly one [1..1] Summary Data Section (VAT) (identifier: urn:oid:2.16.840.1.113883.10.20.5.5.50) (CONF:86-22932).

#### 1.1.10 HAI Single-Person Report Generic Constraints

[ClinicalDocument: identifier urn: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 20: HAI Single-Person Report Generic Constraints Constraints Overview**

XPath	Card.	Verb	Data Type	CONF#	Value
ClinicalDocument (identifier: urn:oid:2.16.840.1.113883.10.20.5.4.27)					
templateId	1..1	SHALL		<a href="#">86-22415</a>	
@root	1..1	SHALL		<a href="#">86-22416</a>	2.16.840.1.113883.10.20.5.4.27
recordTarget	1..1	SHALL		<a href="#">86-22417</a>	
patientRole	1..1	SHALL		<a href="#">86-22418</a>	
id	1..*	SHALL		<a href="#">86-22419</a>	
@root	1..1	SHALL		<a href="#">86-22420</a>	
@extension	1..1	SHALL		<a href="#">86-22421</a>	
patient	1..1	SHALL		<a href="#">86-22422</a>	
name	0..1	MAY		<a href="#">86-22423</a>	
administrativeGenderCode	1..1	SHALL		<a href="#">86-22424</a>	
@code	1..1	SHALL		<a href="#">86-22425</a>	2.16.840.1.113883.1.11.1 (Administrative Gender (HL7 V3))
birthTime	1..1	SHALL		<a href="#">86-22426</a>	
@value	1..1	SHALL		<a href="#">86-22427</a>	
raceCode	0..1	MAY		<a href="#">86-22428</a>	2.16.840.1.114222.4.11.7232 (NHSNRaceCategory)
ethnicGroupCode	0..1	MAY		<a href="#">86-22429</a>	2.16.840.1.114222.4.11.837 (EthnicityGroup)

1. Conforms to [Healthcare Associated Infection Report](#) template (identifier: urn:oid:2.16.840.1.113883.10.20.5.4.25).
2. **SHALL** contain exactly one [1..1] **templateId** (CONF:86-22415) such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.5.4.27" (CONF:86-22416).
3. **SHALL** contain exactly one [1..1] **recordTarget** (CONF:86-22417).
  - a. This recordTarget **SHALL** contain exactly one [1..1] **patientRole** (CONF:86-22418).
    - i. This patientRole **SHALL** contain at least one [1..\*] **id** (CONF:86-22419).
      1. Such ids **SHALL** contain exactly one [1..1] **@root** (CONF:86-22420).

2. Such ids **SHALL** contain exactly one [1..1] @extension (CONF:86-22421).
- ii. This patientRole **SHALL** contain exactly one [1..1] patient (CONF:86-22422).

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:86-22423).
2. This patient **SHALL** contain exactly one [1..1] administrativeGenderCode (CONF:86-22424).
  - a. This administrativeGenderCode **SHALL** contain exactly one [1..1] @code, which **SHALL** be selected from ValueSet [Administrative Gender \(HL7 V3\)](#) 2.16.840.1.113883.1.11.1 **STATIC** (CONF:86-22425).
3. This patient **SHALL** contain exactly one [1..1] birthTime (CONF:86-22426).
  - a. This birthTime **SHALL** contain exactly one [1..1] @value (CONF:86-22427).
4. This patient **MAY** contain zero or one [0..1] raceCode, which **SHALL** be selected from ValueSet [NHSN RaceCategory](#) 2.16.840.1.114222.4.11.7232 **DYNAMIC** (CONF:86-22428).
5. This patient **MAY** contain zero or one [0..1] ethnicGroupCode (ValueSet: [EthnicityGroup](#) 2.16.840.1.114222.4.11.837 **STATIC**) (CONF:86-22429).
4. The author **MAY** be software or **MAY** be a person in the role of infection control professional (ICP) (CONF:86-22430).

**Table 21: 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: <a href="http://www.hl7.org">http://www.hl7.org</a>			
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 22: NHSNRaceCategory**

Value Set: NHSNRaceCategory 2.16.840.1.114222.4.11.7232			
Value Set Source: <a href="https://phinivads.cdc.gov">https://phinivads.cdc.gov</a>			
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 23: 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: <a href="http://phinivads.cdc.gov/vads/ViewValueSet.action?id=35D34BBC-617F-DD11-B38D-00188B398520">http://phinivads.cdc.gov/vads/ViewValueSet.action?id=35D34BBC-617F-DD11-B38D-00188B398520</a>			
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

### 1.1.11 HAI AUR Antimicrobial Resistance Option (ARO) Report (V2)

[ClinicalDocument: identifier urn:hl7ii:2.16.840.1.113883.10.20.5.31:2014-12-01 (closed)]

**Table 24: HAI AUR Antimicrobial Resistance Option (ARO) Report (V2) Contexts**

Contained By:	Contains:
	<a href="#">Findings Section in an ARO Report (V2)</a>

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 25: HAI AUR Antimicrobial Resistance Option (ARO) Report (V2) Constraints Overview**

XPath	Card.	Verb	Data Type	CONF#	Value
ClinicalDocument (identifier: urn:hl7ii:2.16.840.1.113883.10.20.5.31:2014-12-01)					
templateId	1..1	SHALL		<a href="#">1129-30540</a>	
@root	1..1	SHALL		<a href="#">1129-30541</a>	2.16.840.1.113883.10.20.5.7.2.2.1
templateId	1..1	SHALL		<a href="#">1129-21951</a>	
@root	1..1	SHALL		<a href="#">1129-21952</a>	2.16.840.1.113883.10.20.5.31
@extension	1..1	SHALL		<a href="#">1129-30542</a>	2014-12-01
componentOf	1..1	SHALL		<a href="#">1129-21139</a>	
encompassingEncounter	1..1	SHALL		<a href="#">1129-21140</a>	
code	1..1	SHALL		<a href="#">1129-21141</a>	2.16.840.1.113883.13.1 (NHSNEncounterTypeCode)
effectiveTime	1..1	SHALL		<a href="#">1129-21143</a>	
low	1..1	SHALL		<a href="#">1129-21144</a>	
@value	1..1	SHALL		<a href="#">1129-21145</a>	
location	1..1	SHALL		<a href="#">1129-21146</a>	
healthCareFacility	1..1	SHALL		<a href="#">1129-21147</a>	
id	1..1	SHALL		<a href="#">1129-21148</a>	
@root	1..1	SHALL		<a href="#">1129-21149</a>	
component	1..1	SHALL		<a href="#">1129-21150</a>	
structuredBody	1..1	SHALL		<a href="#">1129-21151</a>	
component	1..1	SHALL		<a href="#">1129-21152</a>	
section	1..1	SHALL		<a href="#">1129-21153</a>	<a href="#">Findings Section in an ARO Report (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.5.5.32:2014-12-01)</a>

1. Conforms to [HAI Single-Person Report Generic Constraints](#) template (identifier: urn:oid:2.16.840.1.113883.10.20.5.4.27).
2. **SHALL** contain exactly one [1..1] **templateId** (CONF:1129-30540) such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.5.7.2.2.1" (CONF:1129-30541).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:1129-21951) such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.5.31" (CONF:1129-21952).
  - b. **SHALL** contain exactly one [1..1] **@extension**="2014-12-01" (CONF:1129-30542).
4. **SHALL** contain exactly one [1..1] **componentOf** (CONF:1129-21139).
  - a. This componentOf **SHALL** contain exactly one [1..1] **encompassingEncounter** (CONF:1129-21140).
    - i. This encompassingEncounter **SHALL** contain exactly one [1..1] **code**, which **SHALL** be selected from ValueSet [NHSNEncounterTypeCode](#) 2.16.840.1.113883.13.1 **STATIC** (CONF:1129-21141).
    - ii. This encompassingEncounter **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:1129-21143).
      1. This effectiveTime **SHALL** contain exactly one [1..1] **low** (CONF:1129-21144).
        - a. This low **SHALL** contain exactly one [1..1] **@value** (CONF:1129-21145).  
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:1129-23358).
    - iii. This encompassingEncounter **SHALL** contain exactly one [1..1] **location** (CONF:1129-21146).
      1. This location **SHALL** contain exactly one [1..1] **healthCareFacility** (CONF:1129-21147).
        - a. This healthCareFacility **SHALL** contain exactly one [1..1] **id** (CONF:1129-21148).
          - i. This id **SHALL** contain exactly one [1..1] **@root** (CONF:1129-21149).
  5. **SHALL** contain exactly one [1..1] **component** (CONF:1129-21150).
    - a. This component **SHALL** contain exactly one [1..1] **structuredBody** (CONF:1129-21151).
      - i. This structuredBody **SHALL** contain exactly one [1..1] **component** (CONF:1129-21152) such that it
        1. **SHALL** contain exactly one [1..1] [Findings Section in an ARO Report \(V2\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.5.5.32:2014-12-01) (CONF:1129-21153).

**Table 26: NHSN EncounterTypeCode**

Value Set: NHSN EncounterTypeCode 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

### 1.1.12 HAI Bloodstream Infection Report (BSI)

[ClinicalDocument: identifier urn:oid:2.16.840.1.113883.10.20.5.32 (closed)]

**Table 27: HAI Bloodstream Infection Report (BSI) Contexts**

Contained By:	Contains:
	<a href="#">Findings Section in an Infection-Type Report</a> <a href="#">Infection Details Section in a BSI Report</a> <a href="#">Infection Risk Factors Section in a BSI Report</a>

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 28: HAI Bloodstream Infection Report (BSI) Constraints Overview**

XPath	Card.	Verb	Data Type	CONF#	Value
ClinicalDocument (identifier: urn:oid:2.16.840.1.113883.10.20.5.32)					
templateId	1..1	SHALL		<a href="#">86-28307</a>	
@root	1..1	SHALL		<a href="#">86-28308</a>	2.16.840.1.113883.10.20.5.7.1
templateId	1..1	SHALL		<a href="#">86-22460</a>	
@root	1..1	SHALL		<a href="#">86-22461</a>	2.16.840.1.113883.10.20.5.32
componentOf	1..1	SHALL		<a href="#">86-22462</a>	
encompassingEncounter	1..1	SHALL		<a href="#">86-22463</a>	
effectiveTime	1..1	SHALL		<a href="#">86-22464</a>	
low	1..1	SHALL		<a href="#">86-22465</a>	
@value	1..1	SHALL		<a href="#">86-22466</a>	
high	0..1	MAY		<a href="#">86-22467</a>	
@value	1..1	SHALL		<a href="#">86-22468</a>	
location	1..1	SHALL		<a href="#">86-22469</a>	
healthCareFacility	1..1	SHALL		<a href="#">86-22470</a>	
id	1..1	SHALL		<a href="#">86-22471</a>	
@root	1..1	SHALL		<a href="#">86-22472</a>	
@extension	1..1	SHALL		<a href="#">86-22473</a>	
code	1..1	SHALL		<a href="#">86-22474</a>	2.16.840.1.113883.13.19 (NHSNHealthcareServiceLocation Code)
component	1..1	SHALL		<a href="#">86-22476</a>	
structuredBody	1..1	SHALL		<a href="#">86-22477</a>	
component	1..1	SHALL		<a href="#">86-22478</a>	
section	1..1	SHALL		<a href="#">86-22479</a>	<a href="#">Infection Risk Factors Section in a BSI Report (identifier:</a>

					<a href="#">urn:oid:2.16.840.1.113883.10.20.5.5.33</a>
component	1..1	SHALL		<a href="#">86-22480</a>	
section	1..1	SHALL		<a href="#">86-22481</a>	<a href="#">Infection Details Section in a BSI Report (identifier: urn:oid:2.16.840.1.113883.10.20.5.5.38)</a>
component	1..1	SHALL		<a href="#">86-22482</a>	
section	1..1	SHALL		<a href="#">86-22483</a>	<a href="#">Findings Section in an Infection-Type Report (identifier: urn:oid:2.16.840.1.113883.10.20.5.5.45)</a>

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

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

2. **SHALL** contain exactly one [1..1] **templateId** (CONF:86-28307) such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.5.7.1" (CONF:86-28308).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:86-22460) such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.5.32" (CONF:86-22461).
4. **SHALL** contain exactly one [1..1] **componentOf** (CONF:86-22462).
  - a. This componentOf **SHALL** contain exactly one [1..1] **encompassingEncounter** (CONF:86-22463).
    - i. This encompassingEncounter **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:86-22464).
      1. This effectiveTime **SHALL** contain exactly one [1..1] **low** (CONF:86-22465).
        - a. This low **SHALL** contain exactly one [1..1] **@value** (CONF:86-22466).  
Note: Admission Date
      2. This effectiveTime **MAY** contain zero or one [0..1] **high** (CONF:86-22467).
        - a. The high, if present, **SHALL** contain exactly one [1..1] **@value** (CONF:86-22468).  
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:86-23359).
    - ii. This encompassingEncounter **SHALL** contain exactly one [1..1] **location** (CONF:86-22469).

1. This location **SHALL** contain exactly one [1..1] **healthCareFacility** (CONF:86-22470).
  - a. This healthCareFacility **SHALL** contain exactly one [1..1] **id** (CONF:86-22471).
    - i. This id **SHALL** contain exactly one [1..1] **@root** (CONF:86-22472).
    - ii. This id **SHALL** contain exactly one [1..1] **@extension** (CONF:86-22473).
  - b. This healthCareFacility **SHALL** contain exactly one [1..1] **code**, which **SHALL** be selected from ValueSet [NHSNHealthcareServiceLocationCode](#) 2.16.840.1.113883.13.19 **DYNAMIC** (CONF:86-22474).

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

5. **SHALL** contain exactly one [1..1] **component** (CONF:86-22476).
  - a. This component **SHALL** contain exactly one [1..1] **structuredBody** (CONF:86-22477).
    - i. This structuredBody **SHALL** contain exactly one [1..1] **component** (CONF:86-22478) such that it
      1. **SHALL** contain exactly one [1..1] [Infection Risk Factors Section in a BSI Report](#) (identifier: urn:oid:2.16.840.1.113883.10.20.5.5.33) (CONF:86-22479).
    - ii. This structuredBody **SHALL** contain exactly one [1..1] **component** (CONF:86-22480) such that it
      1. **SHALL** contain exactly one [1..1] [Infection Details Section in a BSI Report](#) (identifier: urn:oid:2.16.840.1.113883.10.20.5.5.38) (CONF:86-22481).
    - iii. This structuredBody **SHALL** contain exactly one [1..1] **component** (CONF:86-22482) such that it
      1. **SHALL** contain exactly one [1..1] [Findings Section in an Infection-Type Report](#) (identifier: urn:oid:2.16.840.1.113883.10.20.5.5.45) (CONF:86-22483).

**Table 29: 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
...			

### 1.1.13 HAI Central-Line Insertion Practice Numerator Report (V2)

[ClinicalDocument: identifier urn:hl7ii:2.16.840.1.113883.10.20.5.36:2014-12-01 (closed)]

**Table 30: HAI Central-Line Insertion Practice Numerator Report (V2) Contexts**

Contained By:	Contains:
	<a href="#">Infection Risk Factors Section in a CLIP Report (V2)</a> <a href="#">Procedure Details Section in a CLIP Report</a>

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 31: HAI Central-Line Insertion Practice Numerator Report (V2) Constraints Overview**

XPath	Card.	Verb	Data Type	CONF#	Value
ClinicalDocument (identifier: urn:hl7ii:2.16.840.1.113883.10.20.5.36:2014-12-01)					
templateId	1..1	SHALL		<a href="#">1129-30543</a>	
@root	1..1	SHALL		<a href="#">1129-30544</a>	2.16.840.1.113883.10.20.5.7.2.2.1
templateId	1..1	SHALL		<a href="#">1129-22553</a>	
@root	1..1	SHALL		<a href="#">1129-22554</a>	2.16.840.1.113883.10.20.5.36
@extension	1..1	SHALL		<a href="#">1129-30284</a>	2014-12-01
componentOf	1..1	SHALL		<a href="#">1129-22555</a>	
encompassingEncounter	1..1	SHALL		<a href="#">1129-22556</a>	
effectiveTime	1..1	SHALL		<a href="#">1129-22557</a>	
low	1..1	SHALL		<a href="#">1129-22558</a>	
@nullFlavor	1..1	SHALL	CS	<a href="#">1129-22559</a>	2.16.840.1.113883.5.1008 (HL7NullFlavor) = NI
location	1..1	SHALL		<a href="#">1129-22560</a>	
healthCareFacility	1..1	SHALL		<a href="#">1129-22561</a>	
id	1..1	SHALL		<a href="#">1129-22562</a>	
@root	1..1	SHALL		<a href="#">1129-22563</a>	
@extension	1..1	SHALL		<a href="#">1129-22564</a>	
code	1..1	SHALL		<a href="#">1129-22565</a>	2.16.840.1.113883.13.19 (NHSNHealthcareServiceLocation Code)
component	1..1	SHALL		<a href="#">1129-22567</a>	
structuredBody	1..1	SHALL		<a href="#">1129-22568</a>	
component	1..1	SHALL		<a href="#">1129-22569</a>	
section	1..1	SHALL		<a href="#">1129-30424</a>	<a href="#">Infection Risk Factors Section in a CLIP Report (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.5.5.34:2014-12-01)</a>

component	1..1	SHALL		<a href="#">1129-22571</a>	
section	1..1	SHALL		<a href="#">1129-22572</a>	<a href="#">Procedure Details Section in a CLIP Report (identifier: urn:oid:2.16.840.1.113883.10.20.5.5.42)</a>

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

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

2. **SHALL** contain exactly one [1..1] **templateId** (CONF:1129-30543) such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.5.7.2.2.1" (CONF:1129-30544).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:1129-22553) such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.5.36" (CONF:1129-22554).
  - b. **SHALL** contain exactly one [1..1] **@extension**="2014-12-01" (CONF:1129-30284).
4. **SHALL** contain exactly one [1..1] **componentOf** (CONF:1129-22555).
  - a. This componentOf **SHALL** contain exactly one [1..1] **encompassingEncounter** (CONF:1129-22556).
    - i. This encompassingEncounter **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:1129-22557).
      1. This effectiveTime **SHALL** contain exactly one [1..1] **low** (CONF:1129-22558).
        - a. This low **SHALL** contain exactly one [1..1] **@nullFlavor**="NI" No information (CodeSystem: HL7NullFlavor 2.16.840.1.113883.5.1008 **STATIC**) (CONF:1129-22559).
    - ii. This encompassingEncounter **SHALL** contain exactly one [1..1] **location** (CONF:1129-22560).
      1. This location **SHALL** contain exactly one [1..1] **healthCareFacility** (CONF:1129-22561).
        - a. This healthCareFacility **SHALL** contain exactly one [1..1] **id** (CONF:1129-22562).
          - i. This id **SHALL** contain exactly one [1..1] **@root** (CONF:1129-22563).

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

- ii. This id **SHALL** contain exactly one [1..1] **@extension** (CONF:1129-22564).
  - b. This healthCareFacility **SHALL** contain exactly one [1..1] **code**, which **SHALL** be selected from ValueSet [NGSNHealthcareServiceLocationCode](#) 2.16.840.1.113883.13.19 **DYNAMIC** (CONF:1129-22565).
5. **SHALL** contain exactly one [1..1] **component** (CONF:1129-22567).

- a. This component **SHALL** contain exactly one [1..1] **structuredBody** (CONF:1129-22568).
  - i. This structuredBody **SHALL** contain exactly one [1..1] **component** (CONF:1129-22569) such that it
    1. **SHALL** contain exactly one [1..1] [Infection Risk Factors Section in a CLIP Report \(V2\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.5.5.34:2014-12-01) (CONF:1129-30424).
  - ii. This structuredBody **SHALL** contain exactly one [1..1] **component** (CONF:1129-22571) such that it
    1. **SHALL** contain exactly one [1..1] [Procedure Details Section in a CLIP Report](#) (identifier: urn:oid:2.16.840.1.113883.10.20.5.5.42) (CONF:1129-22572).

#### 1.1.14 HAI Evidence of Infection (Dialysis) Report (V3)

[ClinicalDocument: identifier urn:hl7ii:2.16.840.1.113883.10.20.5.37:2014-12-01 (closed)]

**Table 32: HAI Evidence of Infection (Dialysis) Report (V3) Contexts**

Contained By:	Contains:
	<a href="#">Details Section in an Evidence of Infection (Dialysis) Report (V3)</a> <a href="#">Findings Section in an Infection-Type Report</a> <a href="#">Risk Factors Section in an Evidence of Infection (Dialysis) Report</a>

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 33: HAI Evidence of Infection (Dialysis) Report (V3) Constraints Overview**

<b>XPath</b>	<b>Card.</b>	<b>Verb</b>	<b>Data Type</b>	<b>CONF#</b>	<b>Value</b>
ClinicalDocument (identifier: urn:hl7ii:2.16.840.1.113883.10.20.5.37:2014-12-01)					
templateId	1..1	SHALL		<a href="#">1129-30545</a>	
@root	1..1	SHALL		<a href="#">1129-30546</a>	2.16.840.1.113883.10.20.5.7.2.2.1
templateId	1..1	SHALL		<a href="#">1129-22573</a>	
@root	1..1	SHALL		<a href="#">1129-30254</a>	2.16.840.1.113883.10.20.5.37
@extension	1..1	SHALL		<a href="#">1129-30285</a>	2014-12-01
componentOf	1..1	SHALL		<a href="#">1129-22575</a>	
encompassingEncounter	1..1	SHALL		<a href="#">1129-22576</a>	
code	1..1	SHALL		<a href="#">1129-22577</a>	
@code	1..1	SHALL		<a href="#">1129-22578</a>	2.16.840.1.113883.5.4 (ActCode) = AMB
effectiveTime	1..1	SHALL		<a href="#">1129-22579</a>	
low	1..1	SHALL		<a href="#">1129-22580</a>	
@nullFlavor	1..1	SHALL		<a href="#">1129-22581</a>	2.16.840.1.113883.5.1008 (HL7NullFlavor) = NA
location	1..1	SHALL		<a href="#">1129-22582</a>	
healthCareFacility	1..1	SHALL		<a href="#">1129-22583</a>	
id	1..1	SHALL		<a href="#">1129-22584</a>	
@root	1..1	SHALL		<a href="#">1129-22585</a>	
@extension	1..1	SHALL		<a href="#">1129-22586</a>	
code	1..1	SHALL		<a href="#">1129-22587</a>	2.16.840.1.113883.13.19 (NHSNHealthcareServiceLocation Code)
component	1..1	SHALL		<a href="#">1129-22589</a>	
structuredBody	1..1	SHALL		<a href="#">1129-22590</a>	
component	1..1	SHALL		<a href="#">1129-22591</a>	

section	1..1	SHALL		<a href="#">1129-22592</a>	<a href="#">Risk Factors Section in an Evidence of Infection (Dialysis) Report (identifier: urn:oid:2.16.840.1.113883.10.20.5.5.37)</a>
component	1..1	SHALL		<a href="#">1129-22593</a>	
section	1..1	SHALL		<a href="#">1129-30253</a>	<a href="#">Details Section in an Evidence of Infection (Dialysis) Report (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.5.5.41:2014-12-01)</a>
component	0..1	MAY		<a href="#">1129-23302</a>	
section	1..1	SHALL		<a href="#">1129-23303</a>	<a href="#">Findings Section in an Infection-Type Report (identifier: urn:oid:2.16.840.1.113883.10.20.5.5.45)</a>

1. Conforms to [HAI Single-Person Report Generic Constraints](#) template (identifier: urn:oid:2.16.840.1.113883.10.20.5.4.27).
2. **SHALL** contain exactly one [1..1] **templateId** (CONF:1129-30545) such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.5.7.2.2.1" (CONF:1129-30546).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:1129-22573) such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.5.37" (CONF:1129-30254).
  - b. **SHALL** contain exactly one [1..1] **@extension**="2014-12-01" (CONF:1129-30285).
4. **SHALL** contain exactly one [1..1] **componentOf** (CONF:1129-22575).
  - a. This componentOf **SHALL** contain exactly one [1..1] **encompassingEncounter** (CONF:1129-22576).
    - i. This encompassingEncounter **SHALL** contain exactly one [1..1] **code** (CONF:1129-22577).
      1. This code **SHALL** contain exactly one [1..1] **@code**="AMB" Ambulatory (CodeSystem: ActCode 2.16.840.1.113883.5.4 **STATIC**) (CONF:1129-22578).
    - ii. This encompassingEncounter **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:1129-22579).
      1. This effectiveTime **SHALL** contain exactly one [1..1] **low** (CONF:1129-22580).
        - a. This low **SHALL** contain exactly one [1..1] **@nullFlavor**="NA" (CodeSystem: HL7NullFlavor 2.16.840.1.113883.5.1008 **STATIC**) (CONF:1129-22581).
    - iii. This encompassingEncounter **SHALL** contain exactly one [1..1] **location** (CONF:1129-22582).
      1. This location **SHALL** contain exactly one [1..1] **healthCareFacility** (CONF:1129-22583).

- a. This healthCareFacility **SHALL** contain exactly one [1..1] **id** (CONF:1129-22584).

- i. This id **SHALL** contain exactly one [1..1] **@root** (CONF:1129-22585).

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

- ii. This id **SHALL** contain exactly one [1..1] **@extension** (CONF:1129-22586).

- b. This healthCareFacility **SHALL** contain exactly one [1..1] **code** (ValueSet: [NHSNHealthcareServiceLocationCode](#) 2.16.840.1.113883.13.19 **DYNAMIC**) (CONF:1129-22587).

- 5. **SHALL** contain exactly one [1..1] **component** (CONF:1129-22589).

- a. This component **SHALL** contain exactly one [1..1] **structuredBody** (CONF:1129-22590).

- i. This structuredBody **SHALL** contain exactly one [1..1] **component** (CONF:1129-22591) such that it

- 1. **SHALL** contain exactly one [1..1] [Risk Factors Section in an Evidence of Infection \(Dialysis\) Report](#) (identifier: urn:oid:2.16.840.1.113883.10.20.5.5.37) (CONF:1129-22592).

- ii. This structuredBody **SHALL** contain exactly one [1..1] **component** (CONF:1129-22593) such that it

- 1. **SHALL** contain exactly one [1..1] [Details Section in an Evidence of Infection \(Dialysis\) Report \(V3\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.5.5.41:2014-12-01) (CONF:1129-30253).

- iii. This structuredBody **MAY** contain zero or one [0..1] **component** (CONF:1129-23302) such that it

- 1. **SHALL** contain exactly one [1..1] [Findings Section in an Infection-Type Report](#) (identifier: urn:oid:2.16.840.1.113883.10.20.5.5.45) (CONF:1129-23303).
      - 2. If a positive blood culture was obtained **SHALL** contain a component containing a Findings Section in an Infection-type Report (CONF:1129-23304).

#### 1.1.15 HAI Laboratory-Identified Organism (LIO) Report (V2)

[ClinicalDocument: identifier urn:hl7ii:2.16.840.1.113883.10.20.5.38:2014-12-01 (closed)]

**Table 34: HAI Laboratory-Identified Organism (LIO) Report (V2) Contexts**

Contained By:	Contains:
	<a href="#">Encounters Section in a LIO Report (V2)</a> <a href="#">Findings Section in a LIO Report (V2)</a>

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 35: HAI Laboratory-Identified Organism (LIO) Report (V2) Constraints Overview**

XPath	Card.	Verb	Data Type	CONF#	Value
ClinicalDocument (identifier: urn:hl7ii:2.16.840.1.113883.10.20.5.38:2014-12-01)					
templateId	1..1	SHALL		<a href="#">1129-30547</a>	
@root	1..1	SHALL		<a href="#">1129-30548</a>	2.16.840.1.113883.10.20.5.7.2.2.1
templateId	1..1	SHALL		<a href="#">1129-22597</a>	
@root	1..1	SHALL		<a href="#">1129-22598</a>	2.16.840.1.113883.10.20.5.38
@extension	1..1	SHALL		<a href="#">1129-30286</a>	2014-12-01
componentOf	1..1	SHALL		<a href="#">1129-22599</a>	
encompassingEncounter	1..1	SHALL		<a href="#">1129-22600</a>	
code	1..1	SHALL		<a href="#">1129-22601</a>	2.16.840.1.113883.13.1 (NHSNEncounterTypeCode)
effectiveTime	1..1	SHALL		<a href="#">1129-22603</a>	
low	1..1	SHALL		<a href="#">1129-22604</a>	
@nullFlavor	0..1	MAY		<a href="#">1129-23305</a>	
@value	0..1	MAY		<a href="#">1129-22605</a>	
location	1..1	SHALL		<a href="#">1129-22606</a>	
healthCareFacility	1..1	SHALL		<a href="#">1129-22607</a>	
id	1..1	SHALL		<a href="#">1129-22608</a>	
@root	1..1	SHALL		<a href="#">1129-22609</a>	
component	1..1	SHALL		<a href="#">1129-22610</a>	
structuredBody	1..1	SHALL		<a href="#">1129-22611</a>	
component	1..1	SHALL		<a href="#">1129-22612</a>	
section	1..1	SHALL		<a href="#">1129-30420</a>	<a href="#">Findings Section in a LIO Report (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.5.5.46:2014-12-01)</a>
component	1..1	SHALL		<a href="#">1129-</a>	



				<a href="#">22614</a>	
section	1..1	SHALL		<a href="#">1129-30421</a>	<a href="#">Encounters Section in a LIO Report (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.5.5.44:2014-12-01)</a>

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

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

2. **SHALL** contain exactly one [1..1] **templateId** (CONF:1129-30547) such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.5.7.2.2.1" (CONF:1129-30548).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:1129-22597) such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.5.38" (CONF:1129-22598).
  - b. **SHALL** contain exactly one [1..1] **@extension**="2014-12-01" (CONF:1129-30286).
4. **SHALL** contain exactly one [1..1] **componentOf** (CONF:1129-22599).
  - a. This componentOf **SHALL** contain exactly one [1..1] **encompassingEncounter** (CONF:1129-22600).
    - i. This encompassingEncounter **SHALL** contain exactly one [1..1] **code**, which **SHALL** be selected from ValueSet [NHSNEncounterTypeCode](#) 2.16.840.1.113883.13.1 **STATIC** (CONF:1129-22601).
    - ii. This encompassingEncounter **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:1129-22603).
      1. This effectiveTime **SHALL** contain exactly one [1..1] **low** (CONF:1129-22604).
        - a. This low **MAY** contain zero or one [0..1] **@nullFlavor** (CONF:1129-23305).
        - b. This low **MAY** contain zero or one [0..1] **@value** (CONF:1129-22605).  
Note: Admission Date
        - c. If encounter type is IMP, effectiveTime/low/@value is required; if encounter type is AMB, effectiveTime/low/@nullFlavor="NA" (CONF:1129-23306).
      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:1129-23360).
    - iii. This encompassingEncounter **SHALL** contain exactly one [1..1] **location** (CONF:1129-22606).
      1. This location **SHALL** contain exactly one [1..1] **healthCareFacility** (CONF:1129-22607).
        - a. This healthCareFacility **SHALL** contain exactly one [1..1] **id** (CONF:1129-22608).

- i. This id **SHALL** contain exactly one [1..1] @root (CONF:1129-22609).
5. **SHALL** contain exactly one [1..1] **component** (CONF:1129-22610).
  - a. This component **SHALL** contain exactly one [1..1] **structuredBody** (CONF:1129-22611).
    - i. This structuredBody **SHALL** contain exactly one [1..1] **component** (CONF:1129-22612) such that it
      1. **SHALL** contain exactly one [1..1] [Findings Section in a LIO Report \(V2\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.5.5.46:2014-12-01) (CONF:1129-30420).
    - ii. This structuredBody **SHALL** contain exactly one [1..1] **component** (CONF:1129-22614) such that it
      1. **SHALL** contain exactly one [1..1] [Encounters Section in a LIO Report \(V2\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.5.5.44:2014-12-01) (CONF:1129-30421).

#### 1.1.16 HAI Outpatient Procedure Component (OPC) Event Report

[ClinicalDocument: identifier urn:oid:2.16.840.1.113883.10.20.5.47 (closed)]

**Table 36: HAI Outpatient Procedure Component (OPC) Event Report Contexts**

Contained By:	Contains:
	<a href="#">Findings Section in an OPC Report</a> <a href="#">Other Event Details Section</a> <a href="#">Surgical Site Infection Details Section in an OPC Report</a>

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 outpatient procedure component event(s) (multiple events can be reported for a single admission). There are three event types: Same Day Outcome Measures, Prophylactic IV Antibiotic Timing, and Surgical Site Infections (for any or all of the eligible procedures).

Preferred document title: “Outpatient Procedure Component Event Report”.

Key encounter data:

- The encounter type (outpatient) is required.
- The facility id is required.
- A value for the date admitted to facility where the outpatient procedure occurred is required.

Other dates and locations:

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

**Table 37: HAI Outpatient Procedure Component (OPC) Event Report Constraints Overview**

XPath	Card.	Verb	Data Type	CONF#	Value
ClinicalDocument (identifier: urn:oid:2.16.840.1.113883.10.20.5.47)					
templateId	1..1	SHALL		<a href="#">1113-21968</a>	
@root	1..1	SHALL		<a href="#">1113-21969</a>	2.16.840.1.113883.10.20.5.7.2.2
templateId	1..1	SHALL		<a href="#">1113-21755</a>	
@root	1..1	SHALL		<a href="#">1113-21770</a>	2.16.840.1.113883.10.20.5.47
componentOf	1..1	SHALL		<a href="#">1113-21756</a>	
encompassingEncounter	1..1	SHALL		<a href="#">1113-21757</a>	
code	1..1	SHALL		<a href="#">1113-21763</a>	
@code	1..1	SHALL		<a href="#">1113-21775</a>	AMB
@codeSystem	1..1	SHALL		<a href="#">1113-21776</a>	2.16.840.1.113883.5.4 (ActCode) = 2.16.840.1.113883.5.4
effectiveTime	1..1	SHALL		<a href="#">1113-21758</a>	
low	1..1	SHALL		<a href="#">1113-21759</a>	
@value	1..1	SHALL		<a href="#">1113-21771</a>	
location	1..1	SHALL		<a href="#">1113-21760</a>	
healthCareFacility	1..1	SHALL		<a href="#">1113-21761</a>	
id	1..1	SHALL		<a href="#">1113-21762</a>	
@root	1..1	SHALL		<a href="#">1113-21772</a>	
@extension	0..1	MAY		<a href="#">1113-21773</a>	
code	0..1	MAY		<a href="#">1113-21774</a>	2.16.840.1.113883.13.19 (NHSNHealthcareServiceLocation Code)
component	1..1	SHALL		<a href="#">1113-21764</a>	
structuredBody	1..1	SHALL		<a href="#">1113-21765</a>	
component	1..1	SHALL		<a href="#">1113-21766</a>	

section	1..1	SHALL		<a href="#">1113-21769</a>	<a href="#">Surgical Site Infection Details Section in an OPC Report (identifier: urn:oid:2.16.840.1.113883.10.20.5.5.53)</a>
component	1..1	SHALL		<a href="#">1113-21767</a>	
section	1..1	SHALL		<a href="#">1113-21777</a>	<a href="#">Findings Section in an OPC Report (identifier: urn:oid:2.16.840.1.113883.10.20.5.5.55)</a>
component	1..1	SHALL		<a href="#">1113-21768</a>	
section	1..1	SHALL		<a href="#">1113-21778</a>	<a href="#">Other Event Details Section (identifier: urn:oid:2.16.840.1.113883.10.20.5.5.54)</a>

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

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

2. **SHALL** contain exactly one [1..1] **templateId** (CONF:1113-21968) such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.5.7.2.2" (CONF:1113-21969).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:1113-21755) such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.5.47" (CONF:1113-21770).
4. **SHALL** contain exactly one [1..1] **componentOf** (CONF:1113-21756).
  - a. This componentOf **SHALL** contain exactly one [1..1] **encompassingEncounter** (CONF:1113-21757).
    - i. This encompassingEncounter **SHALL** contain exactly one [1..1] **code** (CONF:1113-21763).
      1. This code **SHALL** contain exactly one [1..1] **@code**="AMB" Outpatient (CONF:1113-21775).
      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:1113-21776).
    - ii. This encompassingEncounter **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:1113-21758).
      1. This effectiveTime **SHALL** contain exactly one [1..1] **low** (CONF:1113-21759).
        - a. This low **SHALL** contain exactly one [1..1] **@value** (CONF:1113-21771).  
Note: Admission Date
    - iii. This encompassingEncounter **SHALL** contain exactly one [1..1] **location** (CONF:1113-21760).

1. This location **SHALL** contain exactly one [1..1] **healthCareFacility** (CONF:1113-21761).
  - a. This healthCareFacility **SHALL** contain exactly one [1..1] **id** (CONF:1113-21762).
    - i. This id **SHALL** contain exactly one [1..1] **@root** (CONF:1113-21772).

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

- ii. This id **MAY** contain zero or one [0..1] **@extension** (CONF:1113-21773).
  - b. This healthCareFacility **MAY** contain zero or one [0..1] **code** (ValueSet: [NHSNHealthcareServiceLocationCode](#) 2.16.840.1.113883.13.19 **DYNAMIC**) (CONF:1113-21774).
5. **SHALL** contain exactly one [1..1] **component** (CONF:1113-21764).
  - a. This component **SHALL** contain exactly one [1..1] **structuredBody** (CONF:1113-21765).
    - i. This structuredBody **SHALL** contain exactly one [1..1] **component** (CONF:1113-21766) such that it
      1. **SHALL** contain exactly one [1..1] [Surgical Site Infection Details Section in an OPC Report](#) (identifier: urn:oid:2.16.840.1.113883.10.20.5.5.53) (CONF:1113-21769).
    - ii. This structuredBody **SHALL** contain exactly one [1..1] **component** (CONF:1113-21767) such that it
      1. **SHALL** contain exactly one [1..1] [Findings Section in an OPC Report](#) (identifier: urn:oid:2.16.840.1.113883.10.20.5.5.55) (CONF:1113-21777).
    - iii. This structuredBody **SHALL** contain exactly one [1..1] **component** (CONF:1113-21768) such that it
      1. **SHALL** contain exactly one [1..1] [Other Event Details Section](#) (identifier: urn:oid:2.16.840.1.113883.10.20.5.5.54) (CONF:1113-21778).

### 1.1.17 HAI Procedure Denominator Report (V2)

[ClinicalDocument: identifier urn:oid:2.16.840.1.113883.10.20.5.35.2 (closed)]

**Table 38: HAI Procedure Denominator Report (V2) Contexts**

Contained By:	Contains:
	<a href="#">Infection Risk Factors Section in a Procedure Report</a> <a href="#">Procedure Details Section in a Procedure Report (V2)</a>

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 39: HAI Procedure Denominator Report (V2) Constraints Overview**

XPath	Card.	Verb	Data Type	CONF#	Value
ClinicalDocument (identifier: urn:oid:2.16.840.1.113883.10.20.5.35.2)					
templateId	1..1	SHALL		<a href="#">1101-30309</a>	
@root	1..1	SHALL		<a href="#">1101-30310</a>	2.16.840.1.113883.10.20.5.7.2.1.1
templateId	1..1	SHALL		<a href="#">1101-22531</a>	
@root	1..1	SHALL		<a href="#">1101-30255</a>	2.16.840.1.113883.10.20.5.35.2
componentOf	1..1	SHALL		<a href="#">1101-22533</a>	
encompassingEncounter	1..1	SHALL		<a href="#">1101-22534</a>	
code	1..1	SHALL		<a href="#">1101-22535</a>	2.16.840.1.113883.13.1 (NHSNEncounterTypeCode)
location	1..1	SHALL		<a href="#">1101-22537</a>	
healthCareFacility	1..1	SHALL		<a href="#">1101-22538</a>	
id	1..1	SHALL		<a href="#">1101-22539</a>	
@root	1..1	SHALL		<a href="#">1101-22540</a>	
@extension	0..1	MAY		<a href="#">1101-22541</a>	
code	0..1	MAY		<a href="#">1101-22542</a>	2.16.840.1.113883.13.19 (NHSNHealthcareServiceLocation Code)
component	1..1	SHALL		<a href="#">1101-22545</a>	
structuredBody	1..1	SHALL		<a href="#">1101-22546</a>	
component	1..1	SHALL		<a href="#">1101-22547</a>	
section	1..1	SHALL		<a href="#">1101-30256</a>	<a href="#">Procedure Details Section in a Procedure Report (V2) (identifier: urn:oid:2.16.840.1.113883.10.20.5.5.43.2)</a>
component	1..1	SHALL		<a href="#">1101-22551</a>	
section	1..1	SHALL		<a href="#">1101-22552</a>	<a href="#">Infection Risk Factors Section in a Procedure Report (identifier: urn:oid:2.16.840.1.113883.10.20.5.5.35)</a>

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

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

2. **SHALL** contain exactly one [1..1] **templateId** (CONF:1101-30309) such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.5.7.2.1.1" (CONF:1101-30310).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:1101-22531) such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.5.35.2" (CONF:1101-30255).
4. **SHALL** contain exactly one [1..1] **componentOf** (CONF:1101-22533).
  - a. This componentOf **SHALL** contain exactly one [1..1] **encompassingEncounter** (CONF:1101-22534).
    - i. This encompassingEncounter **SHALL** contain exactly one [1..1] **code** (ValueSet: [NHSNEncounterTypeCode](#) 2.16.840.1.113883.13.1 **STATIC** 2009-01-30) (CONF:1101-22535).
    - ii. This encompassingEncounter **SHALL** contain exactly one [1..1] **location** (CONF:1101-22537).
      1. This location **SHALL** contain exactly one [1..1] **healthCareFacility** (CONF:1101-22538).
        - a. This healthCareFacility **SHALL** contain exactly one [1..1] **id** (CONF:1101-22539).
          - i. This id **SHALL** contain exactly one [1..1] **@root** (CONF:1101-22540).

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

- ii. This id **MAY** contain zero or one [0..1] **@extension** (CONF:1101-22541).
  - b. This healthCareFacility **MAY** contain zero or one [0..1] **code**, which **SHALL** be selected from ValueSet [NHSNHealthcareServiceLocationCode](#) 2.16.840.1.113883.13.19 **DYNAMIC** (CONF:1101-22542).
  - iii. 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:1101-22544).
5. **SHALL** contain exactly one [1..1] **component** (CONF:1101-22545).
  - a. This component **SHALL** contain exactly one [1..1] **structuredBody** (CONF:1101-22546).
    - i. This structuredBody **SHALL** contain exactly one [1..1] **component** (CONF:1101-22547) such that it
      1. **SHALL** contain exactly one [1..1] [Procedure Details Section in a Procedure Report \(V2\)](#) (identifier:



urn:oid:2.16.840.1.113883.10.20.5.5.43.2) (CONF:1101-30256).

- ii. This structuredBody **SHALL** contain exactly one [1..1] **component** (CONF:1101-22551) such that it
  1. **SHALL** contain exactly one [1..1] [Infection Risk Factors Section in a Procedure Report](#) (identifier: urn:oid:2.16.840.1.113883.10.20.5.5.35) (CONF:1101-22552).

#### 1.1.18 HAI Surgical Site Infection Report (SSI) (V2)

[ClinicalDocument: identifier urn:oid:2.16.840.1.113883.10.20.5.33.2 (closed) ]

**Table 40: HAI Surgical Site Infection Report (SSI) (V2) Contexts**

Contained By:	Contains:
	<a href="#"><u>Findings Section in an Infection-Type Report</u></a> <a href="#"><u>Infection Details Section in an SSI Report (V2)</u></a>

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 41: HAI Surgical Site Infection Report (SSI) (V2) Constraints Overview**

XPath	Card.	Verb	Data Type	CONF#	Value
ClinicalDocument (identifier: urn:oid:2.16.840.1.113883.10.20.5.33.2)					
templateId	1..1	SHALL		<a href="#">1101-30311</a>	
@root	1..1	SHALL		<a href="#">1101-30312</a>	2.16.840.1.113883.10.20.5.7.2.1.1
templateId	1..1	SHALL		<a href="#">1101-22484</a>	
@root	1..1	SHALL		<a href="#">1101-30276</a>	2.16.840.1.113883.10.20.5.33.2
componentOf	1..1	SHALL		<a href="#">1101-22486</a>	
encompassingEncounter	1..1	SHALL		<a href="#">1101-22487</a>	
code	1..1	SHALL		<a href="#">1101-22488</a>	2.16.840.1.113883.13.1 (NHSNEncounterTypeCode)
effectiveTime	1..1	SHALL		<a href="#">1101-22490</a>	
low	1..1	SHALL		<a href="#">1101-27762</a>	
@value	1..1	SHALL		<a href="#">1101-27763</a>	
high	0..1	MAY		<a href="#">1101-22491</a>	
@value	1..1	SHALL		<a href="#">1101-22492</a>	
location	1..1	SHALL		<a href="#">1101-22493</a>	
healthCareFacility	1..1	SHALL		<a href="#">1101-22494</a>	
id	1..1	SHALL		<a href="#">1101-22495</a>	
@root	1..1	SHALL		<a href="#">1101-22496</a>	
@extension	0..1	MAY		<a href="#">1101-22497</a>	
code	0..1	MAY		<a href="#">1101-22498</a>	2.16.840.1.113883.13.19 (NHSNHealthcareServiceLocation Code)
component	1..1	SHALL		<a href="#">1101-22501</a>	
structuredBody	1..1	SHALL		<a href="#">1101-22502</a>	
component	1..1	SHALL		<a href="#">1101-22503</a>	

section	1..1	SHALL		<a href="#">1101-22504</a>	<a href="#">Infection Details Section in an SSI Report (V2) (identifier: urn:oid:2.16.840.1.113883.10.20.5.5.39.2)</a>
component	1..1	SHALL		<a href="#">1101-22505</a>	
section	1..1	SHALL		<a href="#">1101-22506</a>	<a href="#">Findings Section in an Infection-Type Report (identifier: urn:oid:2.16.840.1.113883.10.20.5.5.45)</a>

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

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

2. **SHALL** contain exactly one [1..1] **templateId** (CONF:1101-30311) such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.5.7.2.1.1" (CONF:1101-30312).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:1101-22484) such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.5.33.2" (CONF:1101-30276).
4. **SHALL** contain exactly one [1..1] **componentOf** (CONF:1101-22486).
  - a. This componentOf **SHALL** contain exactly one [1..1] **encompassingEncounter** (CONF:1101-22487).
    - i. This encompassingEncounter **SHALL** contain exactly one [1..1] **code** (ValueSet: [NHSNEncounterTypeCode](#) 2.16.840.1.113883.13.1 **STATIC** 2009-01-30) (CONF:1101-22488).
    - ii. This encompassingEncounter **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:1101-22490).
      1. This effectiveTime **SHALL** contain exactly one [1..1] **low** (CONF:1101-27762).
        - a. This low **SHALL** contain exactly one [1..1] **@value** (CONF:1101-27763).  
Note: Admission Date
      2. This effectiveTime **MAY** contain zero or one [0..1] **high** (CONF:1101-22491).
        - a. The high, if present, **SHALL** contain exactly one [1..1] **@value** (CONF:1101-22492).  
Note: Discharge Date
    - iii. This encompassingEncounter **SHALL** contain exactly one [1..1] **location** (CONF:1101-22493).
      1. This location **SHALL** contain exactly one [1..1] **healthCareFacility** (CONF:1101-22494).
        - a. This healthCareFacility **SHALL** contain exactly one [1..1] **id** (CONF:1101-22495).

- i. This id **SHALL** contain exactly one [1..1] @**root** (CONF:1101-22496).

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

- ii. This id **MAY** contain zero or one [0..1] @**extension** (CONF:1101-22497).
  - b. This healthCareFacility **MAY** contain zero or one [0..1] **code** (ValueSet: [NHSNHealthcareServiceLocationCode](#) 2.16.840.1.113883.13.19 **DYNAMIC**) (CONF:1101-22498).
5. **SHALL** contain exactly one [1..1] **component** (CONF:1101-22501).
- a. This component **SHALL** contain exactly one [1..1] **structuredBody** (CONF:1101-22502).
    - i. This structuredBody **SHALL** contain exactly one [1..1] **component** (CONF:1101-22503) such that it
      1. **SHALL** contain exactly one [1..1] [Infection Details Section in an SSI Report \(V2\)](#) (identifier: urn:oid:2.16.840.1.113883.10.20.5.5.39.2) (CONF:1101-22504).
    - ii. This structuredBody **SHALL** contain exactly one [1..1] **component** (CONF:1101-22505) such that it
      1. **SHALL** contain exactly one [1..1] [Findings Section in an Infection-Type Report](#) (identifier: urn:oid:2.16.840.1.113883.10.20.5.5.45) (CONF:1101-22506).

### 1.1.19 HAI Urinary Tract Infection Numerator Report (UTI)

[ClinicalDocument: identifier urn:oid:2.16.840.1.113883.10.20.5.34 (closed)]

**Table 42: HAI Urinary Tract Infection Numerator Report (UTI) Contexts**

Contained By:	Contains:
	<a href="#">Findings Section in an Infection-Type Report</a> <a href="#">Infection Details Section in a UTI Report</a> <a href="#">Infection Risk Factors Section in a UTI Report</a>

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 43: HAI Urinary Tract Infection Numerator Report (UTI) Constraints Overview**

XPath	Card.	Verb	Data Type	CONF#	Value
ClinicalDocument (identifier: urn:oid:2.16.840.1.113883.10.20.5.34)					
templateId	1..1	SHALL		<a href="#">86-28319</a>	
@root	1..1	SHALL		<a href="#">86-28320</a>	2.16.840.1.113883.10.20.5.7.2.1.1
templateId	1..1	SHALL		<a href="#">86-22507</a>	
@root	1..1	SHALL		<a href="#">86-27433</a>	2.16.840.1.113883.10.20.5.34
componentOf	1..1	SHALL		<a href="#">86-22509</a>	
encompassingEncounter	1..1	SHALL		<a href="#">86-22510</a>	
effectiveTime	1..1	SHALL		<a href="#">86-22511</a>	
low	1..1	SHALL		<a href="#">86-22512</a>	
@value	1..1	SHALL		<a href="#">86-22513</a>	
high	0..1	MAY		<a href="#">86-22514</a>	
@value	1..1	SHALL		<a href="#">86-22515</a>	
location	1..1	SHALL		<a href="#">86-22516</a>	
healthCareFacility	1..1	SHALL		<a href="#">86-22517</a>	
id	1..1	SHALL		<a href="#">86-22518</a>	
@root	1..1	SHALL		<a href="#">86-22519</a>	
@extension	1..1	SHALL		<a href="#">86-22520</a>	
code	1..1	SHALL		<a href="#">86-22521</a>	2.16.840.1.113883.13.19 (NHSNHealthcareServiceLocation Code)
component	1..1	SHALL		<a href="#">86-22523</a>	
structuredBody	1..1	SHALL		<a href="#">86-22524</a>	
component	1..1	SHALL		<a href="#">86-22525</a>	
section	1..1	SHALL		<a href="#">86-22526</a>	<a href="#">Infection Risk Factors Section in a UTI Report (identifier:</a>

					<a href="#">urn:oid:2.16.840.1.113883.10.20.5.5.36</a>
component	1..1	SHALL		<a href="#">86-22527</a>	
section	1..1	SHALL		<a href="#">86-22528</a>	<a href="#">Infection Details Section in a UTI Report (identifier: urn:oid:2.16.840.1.113883.10.20.5.5.40)</a>
component	1..1	SHALL		<a href="#">86-22529</a>	
section	1..1	SHALL		<a href="#">86-22530</a>	<a href="#">Findings Section in an Infection-Type Report (identifier: urn:oid:2.16.840.1.113883.10.20.5.5.45)</a>

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

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

2. **SHALL** contain exactly one [1..1] **templateId** (CONF:86-28319) such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.5.7.2.1.1" (CONF:86-28320).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:86-22507) such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.5.34" (CONF:86-27433).
4. **SHALL** contain exactly one [1..1] **componentOf** (CONF:86-22509).
  - a. This componentOf **SHALL** contain exactly one [1..1] **encompassingEncounter** (CONF:86-22510).
    - i. This encompassingEncounter **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:86-22511).
      1. This effectiveTime **SHALL** contain exactly one [1..1] **low** (CONF:86-22512).
        - a. This low **SHALL** contain exactly one [1..1] **@value** (CONF:86-22513).  
Note: Admission Date
      2. This effectiveTime **MAY** contain zero or one [0..1] **high** (CONF:86-22514).
        - a. The high, if present, **SHALL** contain exactly one [1..1] **@value** (CONF:86-22515).  
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:86-23362).
    - ii. This encompassingEncounter **SHALL** contain exactly one [1..1] **location** (CONF:86-22516).

1. This location **SHALL** contain exactly one [1..1] **healthCareFacility** (CONF:86-22517).
  - a. This healthCareFacility **SHALL** contain exactly one [1..1] **id** (CONF:86-22518).
    - i. This id **SHALL** contain exactly one [1..1] **@root** (CONF:86-22519).

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

- ii. This id **SHALL** contain exactly one [1..1] **@extension** (CONF:86-22520).
  - b. This healthCareFacility **SHALL** contain exactly one [1..1] **code** (ValueSet: [NHSNHealthcareServiceLocationCode](#) 2.16.840.1.113883.13.19 **DYNAMIC**) (CONF:86-22521).
5. **SHALL** contain exactly one [1..1] **component** (CONF:86-22523).
  - a. This component **SHALL** contain exactly one [1..1] **structuredBody** (CONF:86-22524).
    - i. This structuredBody **SHALL** contain exactly one [1..1] **component** (CONF:86-22525) such that it
      1. **SHALL** contain exactly one [1..1] [Infection Risk Factors Section in a UTI Report](#) (identifier: urn:oid:2.16.840.1.113883.10.20.5.5.36) (CONF:86-22526).
    - ii. This structuredBody **SHALL** contain exactly one [1..1] **component** (CONF:86-22527) such that it
      1. **SHALL** contain exactly one [1..1] [Infection Details Section in a UTI Report](#) (identifier: urn:oid:2.16.840.1.113883.10.20.5.5.40) (CONF:86-22528).
    - iii. This structuredBody **SHALL** contain exactly one [1..1] **component** (CONF:86-22529) such that it
      1. **SHALL** contain exactly one [1..1] [Findings Section in an Infection-Type Report](#) (identifier: urn:oid:2.16.840.1.113883.10.20.5.5.45) (CONF:86-22530).



## 2 SECTION-LEVEL TEMPLATES

### 2.1 HAI Section Generic Constraints

[section: identifier urn: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 44: HAI Section Generic Constraints Constraints Overview**

XPath	Card.	Verb	Data Type	CONF#	Value
section (identifier: urn:oid:2.16.840.1.113883.10.20.5.4.26)					
templateId	1..1	SHALL		<a href="#">86-21958</a>	
@root	1..1	SHALL		<a href="#">86-21959</a>	2.16.840.1.113883.10.20.5.4.26
code	1..1	SHALL		<a href="#">86-21953</a>	
@code	1..1	SHALL		<a href="#">86-21954</a>	2.16.840.1.113883.6.1 (LOINC)
title	1..1	SHALL		<a href="#">86-21955</a>	
text	1..1	SHALL		<a href="#">86-21956</a>	
entry	1..*	SHALL		<a href="#">86-21957</a>	

1. **SHALL** contain exactly one [1..1] **templateId** (CONF:86-21958) such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.5.4.26" (CONF:86-21959).
2. **SHALL** contain exactly one [1..1] **code** (CONF:86-21953).
  - a. This code **SHALL** contain exactly one [1..1] **@code** (CodeSystem: LOINC 2.16.840.1.113883.6.1 **STATIC**) (CONF:86-21954).
3. **SHALL** contain exactly one [1..1] **title** (CONF:86-21955).
4. **SHALL** contain exactly one [1..1] **text** (CONF:86-21956).
5. **SHALL** contain at least one [1..\*] **entry** (CONF:86-21957).

### 2.1.1 Details Section in an Evidence of Infection (Dialysis) Report (V3)

[section: identifier urn:hl7ii:2.16.840.1.113883.10.20.5.5.41:2014-12-01  
(closed)]

**Table 45: Details Section in an Evidence of Infection (Dialysis) Report (V3) Contexts**

Contained By:	Contains:
<a href="#">HAI Evidence of Infection (Dialysis) Report (V3)</a> (required)	<a href="#">Criteria of Diagnosis Organizer</a> <a href="#">Death Observation in an Evidence of Infection (Dialysis) Report</a> <a href="#">Dialysis Clinic Admission Clinical Statement</a> <a href="#">Hospital Admission Clinical Statement</a> <a href="#">Infection Indicator Organizer (V2)</a> <a href="#">Loss of Vascular Access Observation</a>

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 46: Details Section in an Evidence of Infection (Dialysis) Report (V3) Constraints Overview**

XPath	Card.	Verb	Data Type	CONF#	Value
section (identifier: urn:hl7ii:2.16.840.1.113883.10.20.5.5.41:2014-12-01)					
templateId	1..1	SHALL		<a href="#">1129-22338</a>	
@root	1..1	SHALL		<a href="#">1129-30224</a>	2.16.840.1.113883.10.20.5.5.41
@extension	1..1	SHALL		<a href="#">1129-30282</a>	2014-12-01
code	1..1	SHALL		<a href="#">1129-22340</a>	
@code	1..1	SHALL		<a href="#">1129-22341</a>	2.16.840.1.113883.6.1 (LOINC) = 51899-3
entry	1..1	SHALL		<a href="#">1129-22342</a>	
organizer	1..1	SHALL		<a href="#">1129-30428</a>	<a href="#">Infection Indicator Organizer (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.5.6.181:2014-12-01)</a>
entry	1..1	SHALL		<a href="#">1129-22344</a>	
organizer	1..1	SHALL		<a href="#">1129-22345</a>	<a href="#">Criteria of Diagnosis Organizer (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.180)</a>
entry	1..1	SHALL		<a href="#">1129-22346</a>	
act	1..1	SHALL		<a href="#">1129-22347</a>	<a href="#">Hospital Admission Clinical Statement (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.133)</a>
entry	1..1	SHALL		<a href="#">1129-22348</a>	
observation	1..1	SHALL		<a href="#">1129-22349</a>	<a href="#">Death Observation in an Evidence of Infection (Dialysis) Report (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.121)</a>
entry	1..1	SHALL		<a href="#">1129-22350</a>	
encounter	1..1	SHALL		<a href="#">1129-22351</a>	<a href="#">Dialysis Clinic Admission Clinical Statement (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.124)</a>
entry	1..1	SHALL		<a href="#">1129-30222</a>	
observation	1..1	SHALL		<a href="#">1129-</a>	<a href="#">Loss of Vascular Access Observation (identifier:</a>

				<a href="#">30223</a>	<a href="#">urn:oid:2.16.840.1.113883.10.20.5.6.203</a>
--	--	--	--	-----------------------	---

1. Conforms to [HAI Section Generic Constraints](#) template (identifier: urn:oid:2.16.840.1.113883.10.20.5.4.26).
2. **SHALL** contain exactly one [1..1] **templateId** (CONF:1129-22338) such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.5.5.41" (CONF:1129-30224).
  - b. **SHALL** contain exactly one [1..1] **@extension**="2014-12-01" (CONF:1129-30282).
3. **SHALL** contain exactly one [1..1] **code** (CONF:1129-22340).
  - a. This code **SHALL** contain exactly one [1..1] **@code**="51899-3" Details Section (CodeSystem: LOINC 2.16.840.1.113883.6.1 **STATIC**) (CONF:1129-22341).
4. **SHALL** contain exactly one [1..1] **entry** (CONF:1129-22342) such that it
  - a. **SHALL** contain exactly one [1..1] [Infection Indicator Organizer \(V2\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.5.6.181:2014-12-01) (CONF:1129-30428).
5. **SHALL** contain exactly one [1..1] **entry** (CONF:1129-22344) such that it
  - a. **SHALL** contain exactly one [1..1] [Criteria of Diagnosis Organizer](#) (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.180) (CONF:1129-22345).
6. **SHALL** contain exactly one [1..1] **entry** (CONF:1129-22346) such that it
  - a. **SHALL** contain exactly one [1..1] [Hospital Admission Clinical Statement](#) (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.133) (CONF:1129-22347).
7. **SHALL** contain exactly one [1..1] **entry** (CONF:1129-22348) such that it
  - a. **SHALL** contain exactly one [1..1] [Death Observation in an Evidence of Infection \(Dialysis\) Report](#) (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.121) (CONF:1129-22349).
8. **SHALL** contain exactly one [1..1] **entry** (CONF:1129-22350) such that it
  - a. **SHALL** contain exactly one [1..1] [Dialysis Clinic Admission Clinical Statement](#) (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.124) (CONF:1129-22351).
9. **SHALL** contain exactly one [1..1] **entry** (CONF:1129-30222) such that it
  - a. **SHALL** contain exactly one [1..1] [Loss of Vascular Access Observation](#) (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.203) (CONF:1129-30223).

**Figure 1: Details Section in an Evidence of Infection (Dialysis) 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"
    extension="2014-12-01" />
  <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 (V2) -->
      <templateId root="2.16.840.1.113883.10.20.5.6.181"
        extension="2014-12-01"/>
      ...
    </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>
```

</section>

### 2.1.2 Encounters Section in a LIO Report (V2)

[section: identifier urn:hl7ii:2.16.840.1.113883.10.20.5.5.44:2014-12-01  
(closed)]

**Table 47: Encounters Section in a LIO Report (V2) Contexts**

Contained By:	Contains:
<a href="#">HAI Laboratory-Identified Organism (LIO) Report (V2)</a> (required)	<a href="#">Last Physical Overnight Location Act</a> <a href="#">Other Facility Discharge Act</a> <a href="#">Prior Discharge Encounter (V2)</a>

In a LIO Report, the Encounters Section contains entries representing the last physical overnight location of the patient along with whether in the past four weeks the patient was either discharged from the facility or from another facility. It also records the date of that discharge.

**Table 48: Encounters Section in a LIO Report (V2) Constraints Overview**

XPath	Card.	Verb	Data Type	CONF#	Value
section (identifier: urn:hl7ii:2.16.840.1.113883.10.20.5.5.44:2014-12-01)					
templateId	1..1	SHALL		<a href="#">1129-22364</a>	
@root	1..1	SHALL		<a href="#">1129-22365</a>	2.16.840.1.113883.10.20.5.5.44
@extension	1..1	SHALL		<a href="#">1129-30283</a>	2014-12-01
code	1..1	SHALL		<a href="#">1129-22366</a>	
@code	1..1	SHALL		<a href="#">1129-22367</a>	2.16.840.1.113883.6.1 (LOINC) = 46240-8
entry	1..1	SHALL		<a href="#">1129-22368</a>	
encounter	1..1	SHALL		<a href="#">1129-30422</a>	<a href="#">Prior Discharge Encounter (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.5.6.151:2014-12-01)</a>
entry	1..1	SHALL		<a href="#">1129-28240</a>	
act	1..1	SHALL		<a href="#">1129-30588</a>	<a href="#">Other Facility Discharge Act (identifier: urn:hl7ii:2.16.840.1.113883.10.20.5.6.228:2014-12-01)</a>
entry	1..1	SHALL		<a href="#">1129-30273</a>	
act	1..1	SHALL		<a href="#">1129-30575</a>	<a href="#">Last Physical Overnight Location Act (identifier: urn:hl7ii:2.16.840.1.113883.10.20.5.6.227:2014-12-01)</a>

1. Conforms to [HAI Section Generic Constraints](#) template (identifier: urn:oid:2.16.840.1.113883.10.20.5.4.26).
2. **SHALL** contain exactly one [1..1] **templateId** (CONF:1129-22364) such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.5.5.44" (CONF:1129-22365).
  - b. **SHALL** contain exactly one [1..1] **@extension**="2014-12-01" (CONF:1129-30283).
3. **SHALL** contain exactly one [1..1] **code** (CONF:1129-22366).
  - a. 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:1129-22367).
4. **SHALL** contain exactly one [1..1] **entry** (CONF:1129-22368) such that it
  - a. **SHALL** contain exactly one [1..1] [Prior Discharge Encounter \(V2\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.5.6.151:2014-12-01) (CONF:1129-30422).

5. **SHALL** contain exactly one [1..1] **entry** (CONF:1129-28240) such that it
  - a. **SHALL** contain exactly one [1..1] Other Facility Discharge Act (identifier: urn:hl7ii:2.16.840.1.113883.10.20.5.6.228:2014-12-01) (CONF:1129-30588).
6. **SHALL** contain exactly one [1..1] **entry** (CONF:1129-30273) such that it
  - a. **SHALL** contain exactly one [1..1] Last Physical Overnight Location Act (identifier: urn:hl7ii:2.16.840.1.113883.10.20.5.6.227:2014-12-01) (CONF:1129-30575).

**Figure 2: Encounters Section in an LIO Report (V2) Example**

```

<section>
  <!-- HAI Generic section templateId -->
  <templateId root="2.16.840.1.113883.10.20.5.4.26" />
  <!-- Encounters Section in an LIO Report (V2) templateId -->
  <templateId root="2.16.840.1.113883.10.20.5.5.44"
    extension="2014-12-01" />
  <code code="46240-8"
    codeSystem="2.16.840.1.113883.6.1"
    displayName="History of Encounters" />
  <title>Encounters</title>
  <text>...</text>
  <entry typeCode="DRIV">
    <!-- Prior Discharge Encounter (V2) -->
    <encounter classCode="ENC" moodCode="EVN">
      <!-- C-CDA Encounter activity templateId -->
      <templateId root="2.16.840.1.113883.10.20.22.4.49" />
      <!-- HAI Prior Discharge Encounter (V2) templateId -->
      <templateId root="2.16.840.1.113883.10.20.5.6.151"
        extension="2014-12-01" />
      ...
    </encounter>
  </entry>

  <entry typeCode="DRIV">
    <!-- Other Facility Discharge Act -->
    <act classCode="ACT" moodCode="EVN">
      <templateId root="2.16.840.1.113883.10.20.5.6.228"
        extension="2014-12-01" />
      ...
    </act>
  </entry>

  <entry typeCode="DRIV">
    <!-- Last Physical Overnight Location Act -->
    <act classCode="ACT" moodCode="EVN">
      <!-- Last Physical Overnight Location Act templateId -->
      <templateId root="2.16.840.1.113883.10.20.5.6.227"
        extension="2014-12-01" />
      ...
    </act>
  </entry>
</section>

```



### 2.1.3 Findings Section in a LIO Report (V2)

[section: identifier urn:hl7ii:2.16.840.1.113883.10.20.5.5.46:2014-12-01  
(closed)]

**Table 49: Findings Section in a LIO Report (V2) Contexts**

Contained By:	Contains:
<a href="#">HAI Laboratory-Identified Organism (LIO) Report (V2)</a> (required)	<a href="#">Pathogen Identified Observation (LIO) (V2)</a>

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 50: Findings Section in a LIO Report (V2) Constraints Overview**

XPath	Card.	Verb	Data Type	CONF#	Value
section (identifier: urn:hl7ii:2.16.840.1.113883.10.20.5.5.46:2014-12-01)					
templateId	1..1	SHALL		<a href="#">1129-22378</a>	
@root	1..1	SHALL		<a href="#">1129-22379</a>	2.16.840.1.113883.10.20.5.5.46
@extension	1..1	SHALL		<a href="#">1129-30463</a>	2014-12-01
code	1..1	SHALL		<a href="#">1129-22380</a>	
@code	1..1	SHALL		<a href="#">1129-22381</a>	2.16.840.1.113883.6.1 (LOINC) = 18769-0
entry	1..1	SHALL		<a href="#">1129-22382</a>	
observation	1..1	SHALL		<a href="#">1129-30419</a>	<a href="#">Pathogen Identified Observation (LIO) (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.5.6.146:2014-12-01)</a>

1. Conforms to [HAI Section Generic Constraints](#) template (identifier: urn:oid:2.16.840.1.113883.10.20.5.4.26).
2. **SHALL** contain exactly one [1..1] **templateId** (CONF:1129-22378) such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.5.5.46" (CONF:1129-22379).
  - b. **SHALL** contain exactly one [1..1] **@extension**="2014-12-01" (CONF:1129-30463).
3. **SHALL** contain exactly one [1..1] **code** (CONF:1129-22380).

- a. This code **SHALL** contain exactly one [1..1] @code="18769-0" Findings Section (CodeSystem: LOINC 2.16.840.1.113883.6.1 **STATIC**) (CONF:1129-22381).
4. **SHALL** contain exactly one [1..1] **entry** (CONF:1129-22382) such that it
  - a. **SHALL** contain exactly one [1..1] Pathogen Identified Observation (LIO) (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.5.6.146:2014-12-01) (CONF:1129-30419).

**Figure 3: Findings Section in an LIO Report (V2) Example**

```
<section>
  <!-- HAI Generic section template -->
  <templateId root="2.16.840.1.113883.10.20.5.4.26" />
  <!-- HAI Findings Section in an LIO Report template -->
  <templateId root="2.16.840.1.113883.10.20.5.5.46"
    extension="2014-12-01" />
  <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) V2 -->
      <templateId root="2.16.840.1.113883.10.20.5.6.146"
        extension="2014-12-01" />
      ...
    </observation>
  </entry>
</section>
```

#### 2.1.4 Findings Section in an ARO Report (V2)

[section: identifier urn:hl7ii:2.16.840.1.113883.10.20.5.5.32:2014-12-01  
(closed) ]

**Table 51: Findings Section in an ARO Report (V2) Contexts**

Contained By:	Contains:
<a href="#">HAI AUR Antimicrobial Resistance Option (ARO) Report (V2)</a> (required)	<a href="#">Specimen Collection Procedure (ARO) (V2)</a>

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

**Table 52: Findings Section in an ARO Report (V2) Constraints Overview**

XPath	Card.	Verb	Data Type	CONF#	Value
section (identifier: urn:hl7ii:2.16.840.1.113883.10.20.5.5.32:2014-12-01)					
templateId	1..1	SHALL		<a href="#">1129-21128</a>	
@root	1..1	SHALL		<a href="#">1129-21129</a>	2.16.840.1.113883.10.20.5.5.32
@extension	1..1	SHALL		<a href="#">1129-30475</a>	2014-12-01
code	1..1	SHALL		<a href="#">1129-21132</a>	
@code	1..1	SHALL		<a href="#">1129-21133</a>	2.16.840.1.113883.6.1 (LOINC) = 18769-0
title	0..1	MAY		<a href="#">1129-21134</a>	
text	0..1	MAY		<a href="#">1129-21135</a>	
entry	1..1	SHALL		<a href="#">1129-21136</a>	
@typeCode	1..1	SHALL		<a href="#">1129-21137</a>	2.16.840.1.113883.5.6 (HL7ActClass) = DRIV
procedure	1..1	SHALL		<a href="#">1129-30473</a>	<a href="#">Specimen Collection Procedure (ARO) (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.5.6.188:2014-12-01)</a>

1. Conforms to [HAI Section Generic Constraints](#) template (identifier: urn:oid:2.16.840.1.113883.10.20.5.4.26).
2. **SHALL** contain exactly one [1..1] **templateId** (CONF:1129-21128) such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.5.5.32" (CONF:1129-21129).
  - b. **SHALL** contain exactly one [1..1] **@extension**="2014-12-01" (CONF:1129-30475).
3. **SHALL** contain exactly one [1..1] **code** (CONF:1129-21132).
  - a. This code **SHALL** contain exactly one [1..1] **@code**="18769-0" Findings Section (CodeSystem: LOINC 2.16.840.1.113883.6.1) (CONF:1129-21133).
4. **MAY** contain zero or one [0..1] **title** (CONF:1129-21134).
5. **MAY** contain zero or one [0..1] **text** (CONF:1129-21135).
6. **SHALL** contain exactly one [1..1] **entry** (CONF:1129-21136).
  - a. This entry **SHALL** contain exactly one [1..1] **@typeCode**="DRIV" (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6) (CONF:1129-21137).
  - b. This entry **SHALL** contain exactly one [1..1] [Specimen Collection Procedure \(ARO\) \(V2\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.5.6.188:2014-12-01) (CONF:1129-30473).

**Figure 4: Findings Section in an ARO Report (V2) 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 (V2) template id -->
  <templateId root="2.16.840.1.113883.10.20.5.5.32"
    extension="2014-12-01"/>
  <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) (V2) -->
      <templateId root="2.16.840.1.113883.10.20.5.6.188"
        extension="2014-12-01" />
      ...
    </procedure>
  </entry>
</section>
```

### 2.1.5 Findings Section in an Infection-Type Report

[section: identifier urn:oid:2.16.840.1.113883.10.20.5.5.45 (closed)]

**Table 53: Findings Section in an Infection-Type Report Contexts**

Contained By:	Contains:
<a href="#">HAI Bloodstream Infection Report (BSI)</a> (required) <a href="#">HAI Urinary Tract Infection Numerator Report (UTI)</a> (required) <a href="#">HAI Surgical Site Infection Report (SSI) (V2)</a> (required) <a href="#">HAI Evidence of Infection (Dialysis) Report (V3)</a> (optional)	<a href="#">Findings Organizer</a> <a href="#">MDRO/CDI Observation</a> <a href="#">Pathogen Identified Observation</a>

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

**Table 54: Findings Section in an Infection-Type Report Constraints Overview**

XPath	Card.	Verb	Data Type	CONF#	Value
section (identifier: urn:oid:2.16.840.1.113883.10.20.5.5.45)					
templateId	1..1	SHALL		<a href="#">86-22371</a>	
@root	1..1	SHALL		<a href="#">86-22372</a>	2.16.840.1.113883.10.20.5.5.45
code	1..1	SHALL		<a href="#">86-22373</a>	
@code	1..1	SHALL		<a href="#">86-22374</a>	2.16.840.1.113883.6.1 (LOINC) = 18769-0
entry	0..3	MAY		<a href="#">86-23048</a>	
organizer	1..1	SHALL		<a href="#">86-23049</a>	<a href="#">Findings Organizer (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.182)</a>
entry	0..1	MAY		<a href="#">86-23051</a>	
observation	1..1	SHALL		<a href="#">86-23052</a>	<a href="#">Pathogen Identified Observation (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.145)</a>
entry	0..1	MAY		<a href="#">86-23054</a>	
observation	1..1	SHALL		<a href="#">86-23055</a>	<a href="#">MDRO/CDI Observation (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.142)</a>

1. Conforms to [HAI Section Generic Constraints](#) template (identifier: urn:oid:2.16.840.1.113883.10.20.5.4.26).
2. **SHALL** contain exactly one [1..1] **templateId** (CONF:86-22371) such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.5.5.45" (CONF:86-22372).
3. **SHALL** contain exactly one [1..1] **code** (CONF:86-22373).
  - a. This code **SHALL** contain exactly one [1..1] **@code**="18769-0" Findings Section (CodeSystem: LOINC 2.16.840.1.113883.6.1 **STATIC**) (CONF:86-22374).
4. **MAY** contain [0..3] **entry** (CONF:86-23048) such that it
  - a. **SHALL** contain exactly one [1..1] [Findings Organizer](#) (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.182) (CONF:86-23049).
  - b. 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:86-23050).
5. **MAY** contain zero or one [0..1] **entry** (CONF:86-23051) such that it

- a. **SHALL** contain exactly one [1..1] [Pathogen Identified Observation](#) (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.145) (CONF:86-23052).
  - b. 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:86-23053).
6. **MAY** contain zero or one [0..1] **entry** (CONF:86-23054) such that it
- a. **SHALL** contain exactly one [1..1] [MDRO/CDI Observation](#) (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.142) (CONF:86-23055).
  - b. If pathogens were identified, and the report is not an EOID Report, an entry element **SHALL** be present, containing an MDRO/CDI Observation (CONF:86-23056).

**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>

```

## 2.1.6 Findings Section in an OPC Report

[section: identifier urn:oid:2.16.840.1.113883.10.20.5.5.55 (closed)]

**Table 55: Findings Section in an OPC Report Contexts**

Contained By:	Contains:
<a href="#">HAI Outpatient Procedure Component (OPC) Event Report</a> (required)	<a href="#">Findings Organizer</a> <a href="#">Pathogen Identified Observation</a>

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

**Table 56: Findings Section in an OPC Report Constraints Overview**

XPath	Card.	Verb	Data Type	CONF#	Value
section (identifier: urn:oid:2.16.840.1.113883.10.20.5.5.55)					
templateId	1..1	SHALL		<a href="#">1113-21739</a>	
@root	1..1	SHALL		<a href="#">1113-21744</a>	2.16.840.1.113883.10.20.5.5.55
code	1..1	SHALL		<a href="#">1113-21740</a>	
@code	1..1	SHALL		<a href="#">1113-21745</a>	18769-0
@codeSystem	1..1	SHALL		<a href="#">1113-21749</a>	2.16.840.1.113883.6.1
entry	0..3	MAY		<a href="#">1113-21738</a>	
organizer	1..1	SHALL		<a href="#">1113-21743</a>	<a href="#">Findings Organizer (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.182)</a>
entry	0..1	MAY		<a href="#">1113-21741</a>	
observation	1..1	SHALL		<a href="#">1113-21747</a>	<a href="#">Pathogen Identified Observation (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.145)</a>

1. Conforms to [HAI Section Generic Constraints](#) template (identifier: urn:oid:2.16.840.1.113883.10.20.5.4.26).
2. **SHALL** contain exactly one [1..1] **templateId** (CONF:1113-21739) such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.5.5.55" (CONF:1113-21744).
3. **SHALL** contain exactly one [1..1] **code** (CONF:1113-21740).
  - a. This code **SHALL** contain exactly one [1..1] **@code**="18769-0" Findings Section (CONF:1113-21745).

- b. This code **SHALL** contain exactly one [1..1]  
@codeSystem="2.16.840.1.113883.6.1" (CONF:1113-21749).

This section must contain either a Findings Organizer detailing identified pathogens or a Pathogen Identified Observation reporting that no pathogens were identified. Both a Findings Organizer and a Pathogen Identified Observation cannot be present at the same time.

- 4. **MAY** contain [0..3] **entry** (CONF:1113-21738) such that it
  - a. **SHALL** contain exactly one [1..1] [Findings Organizer](#) (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.182) (CONF:1113-21743).
  - b. 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:1113-21746).
- 5. **MAY** contain zero or one [0..1] **entry** (CONF:1113-21741) such that it
  - a. **SHALL** contain exactly one [1..1] [Pathogen Identified Observation](#) (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.145) (CONF:1113-21747).
  - b. 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:1113-21748).

**Figure 6: Findings Section in an OPC Report Example**

```
<section>
  <!-- HAI Generic section templateId -->
  <templateId root="2.16.840.1.113883.10.20.5.4.26" />
  <!-- Findings Section in an OPC Report templateId -->
  <templateId root="2.16.840.1.113883.10.20.5.5.55" />
  <code codeSystem="2.16.840.1.113883.6.1"
        codeSystemName="LOINC"
        code="18769-0"
        displayName="Findings Section" />
  <title>Findings</title>

  ...
  <entry typeCode="DRIV">
    <!-- Findings Organizer -->
    <organizer classCode="CLUSTER" moodCode="EVN">
      <templateId root="2.16.840.1.113883.10.20.5.6.182" />
      ...
    </organizer>
  </entry>
</section>
```



## 2.1.7 Infection Details Section in a BSI Report

[section: identifier urn:oid:2.16.840.1.113883.10.20.5.5.38 (closed)]

**Table 57: Infection Details Section in a BSI Report Contexts**

Contained By:	Contains:
<a href="#">HAI Bloodstream Infection Report (BSI)</a> (required)	<a href="#">Death Observation</a> <a href="#">Infection-Type Observation</a> <a href="#">Post-Procedure Observation</a>

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

**Table 58: Infection Details Section in a BSI Report Constraints Overview**

XPath	Card.	Verb	Data Type	CONF#	Value
section (identifier: urn:oid:2.16.840.1.113883.10.20.5.5.38)					
templateId	1..1	SHALL		<a href="#">86-22310</a>	
@root	1..1	SHALL		<a href="#">86-22311</a>	2.16.840.1.113883.10.20.5.5.38
code	1..1	SHALL		<a href="#">86-22312</a>	
@code	1..1	SHALL		<a href="#">86-22313</a>	2.16.840.1.113883.6.1 (LOINC) = 51899-3
entry	1..1	SHALL		<a href="#">86-22314</a>	
observation	1..1	SHALL		<a href="#">86-22315</a>	<a href="#">Infection-Type Observation (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.139)</a>
entry	0..1	MAY		<a href="#">86-22316</a>	
observation	1..1	SHALL		<a href="#">86-22317</a>	<a href="#">Death Observation (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.120)</a>
entry	0..1	MAY		<a href="#">86-22318</a>	
observation	1..1	SHALL		<a href="#">86-22319</a>	<a href="#">Post-Procedure Observation (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.150)</a>

1. Conforms to [HAI Section Generic Constraints](#) template (identifier: urn:oid:2.16.840.1.113883.10.20.5.4.26).
2. **SHALL** contain exactly one [1..1] **templateId** (CONF:86-22310) such that it

- a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.5.5.38" (CONF:86-22311).
- 3. **SHALL** contain exactly one [1..1] **code** (CONF:86-22312).
  - a. This code **SHALL** contain exactly one [1..1] **@code**="51899-3" Details Section (CodeSystem: LOINC 2.16.840.1.113883.6.1 **STATIC**) (CONF:86-22313).
- 4. **SHALL** contain exactly one [1..1] **entry** (CONF:86-22314) such that it
  - a. **SHALL** contain exactly one [1..1] Infection-Type Observation (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.139) (CONF:86-22315).
- 5. **MAY** contain zero or one [0..1] **entry** (CONF:86-22316) such that it
  - a. **SHALL** contain exactly one [1..1] Death Observation (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.120) (CONF:86-22317).
- 6. **MAY** contain zero or one [0..1] **entry** (CONF:86-22318) such that it
  - a. **SHALL** contain exactly one [1..1] Post-Procedure Observation (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.150) (CONF:86-22319).

**Figure 7: 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>

```

## 2.1.8 Infection Details Section in a UTI Report

[section: identifier urn:oid:2.16.840.1.113883.10.20.5.5.40 (closed)]

**Table 59: Infection Details Section in a UTI Report Contexts**

Contained By:	Contains:
<a href="#">HAI Urinary Tract Infection Numerator Report (UTI)</a> (required)	<a href="#">Death Observation</a> <a href="#">Infection-Type Observation</a> <a href="#">Post-Procedure Observation</a>

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

**Table 60: Infection Details Section in a UTI Report Constraints Overview**

XPath	Card.	Verb	Data Type	CONF#	Value
section (identifier: urn:oid:2.16.840.1.113883.10.20.5.5.40)					
templateId	1..1	SHALL		<a href="#">86-22328</a>	
@root	1..1	SHALL		<a href="#">86-22329</a>	2.16.840.1.113883.10.20.5.5.40
code	1..1	SHALL		<a href="#">86-22330</a>	
@code	1..1	SHALL		<a href="#">86-22331</a>	2.16.840.1.113883.6.1 (LOINC) = 51899-3
entry	1..1	SHALL		<a href="#">86-22332</a>	
observation	1..1	SHALL		<a href="#">86-22333</a>	<a href="#">Infection-Type Observation (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.139)</a>
entry	0..1	MAY		<a href="#">86-22334</a>	
observation	1..1	SHALL		<a href="#">86-22335</a>	<a href="#">Post-Procedure Observation (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.150)</a>
entry	0..1	MAY		<a href="#">86-22336</a>	
observation	1..1	SHALL		<a href="#">86-22337</a>	<a href="#">Death Observation (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.120)</a>

1. Conforms to [HAI Section Generic Constraints](#) template (identifier: urn:oid:2.16.840.1.113883.10.20.5.4.26).
2. **SHALL** contain exactly one [1..1] **templateId** (CONF:86-22328) such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.5.5.40" (CONF:86-22329).
3. **SHALL** contain exactly one [1..1] **code** (CONF:86-22330).
  - a. This code **SHALL** contain exactly one [1..1] **@code**="51899-3" Details Section (CodeSystem: LOINC 2.16.840.1.113883.6.1 **STATIC**) (CONF:86-22331).
4. **SHALL** contain exactly one [1..1] **entry** (CONF:86-22332) such that it
  - a. **SHALL** contain exactly one [1..1] [Infection-Type Observation](#) (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.139) (CONF:86-22333).
5. **MAY** contain zero or one [0..1] **entry** (CONF:86-22334) such that it
  - a. **SHALL** contain exactly one [1..1] [Post-Procedure Observation](#) (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.150) (CONF:86-22335).
6. **MAY** contain zero or one [0..1] **entry** (CONF:86-22336) such that it

- a. **SHALL** contain exactly one [1..1] [Death Observation](#) (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.120) (CONF:86-22337).

**Figure 8: 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>
```

### 2.1.9 Infection Details Section in an SSI Report (V2)

[section: identifier urn:oid:2.16.840.1.113883.10.20.5.5.39.2 (closed)]

**Table 61: Infection Details Section in an SSI Report (V2) Contexts**

Contained By:	Contains:
<a href="#">HAI Surgical Site Infection Report (SSI) (V2)</a> (required)	<a href="#">Death Observation</a> <a href="#">Infection Present at the Time of Surgery Observation</a> <a href="#">Infection-Type Observation</a> <a href="#">Procedure Details Clinical Statement in an Infection-Type Report</a> <a href="#">SSI Detected Using Toolkit Observation</a>

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

**Table 62: Infection Details Section in an SSI Report (V2) Constraints Overview**

XPath	Card.	Verb	Data Type	CONF#	Value
section (identifier: urn:oid:2.16.840.1.113883.10.20.5.5.39.2)					
templateId	1..1	SHALL		<a href="#">1101-22320</a>	
@root	1..1	SHALL		<a href="#">1101-30273</a>	2.16.840.1.113883.10.20.5.5.39.2
code	1..1	SHALL		<a href="#">1101-22322</a>	
@code	1..1	SHALL		<a href="#">1101-22323</a>	2.16.840.1.113883.6.1 (LOINC) = 51899-3
entry	1..1	SHALL		<a href="#">1101-22324</a>	
observation	1..1	SHALL		<a href="#">1101-22325</a>	<a href="#">Infection-Type Observation (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.139)</a>
entry	0..1	MAY		<a href="#">1101-22326</a>	
observation	1..1	SHALL		<a href="#">1101-22327</a>	<a href="#">Death Observation (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.120)</a>
entry	1..1	SHALL		<a href="#">1101-30274</a>	
observation	1..1	SHALL		<a href="#">1101-30275</a>	<a href="#">Infection Present at the Time of Surgery Observation (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.205)</a>
entry	1..1	SHALL		<a href="#">1101-30294</a>	
observation	1..1	SHALL		<a href="#">1101-30295</a>	<a href="#">SSI Detected Using Toolkit Observation (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.206)</a>
entry	1..1	SHALL		<a href="#">1101-30296</a>	
procedure	1..1	SHALL		<a href="#">1101-30297</a>	<a href="#">Procedure Details Clinical Statement in an Infection-Type Report (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.154)</a>

1. Conforms to [HAI Section Generic Constraints](#) template (identifier: urn:oid:2.16.840.1.113883.10.20.5.4.26).
2. **SHALL** contain exactly one [1..1] **templateId** (CONF:1101-22320) such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.5.5.39.2" (CONF:1101-30273).

3. **SHALL** contain exactly one [1..1] **code** (CONF:1101-22322).
  - a. This code **SHALL** contain exactly one [1..1] **@code**="51899-3" Details Section (CodeSystem: LOINC 2.16.840.1.113883.6.1 **STATIC**) (CONF:1101-22323).
4. **SHALL** contain exactly one [1..1] **entry** (CONF:1101-22324) such that it
  - a. **SHALL** contain exactly one [1..1] Infection-Type Observation (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.139) (CONF:1101-22325).
5. **MAY** contain zero or one [0..1] **entry** (CONF:1101-22326) such that it
  - a. **SHALL** contain exactly one [1..1] Death Observation (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.120) (CONF:1101-22327).
6. **SHALL** contain exactly one [1..1] **entry** (CONF:1101-30274) such that it
  - a. **SHALL** contain exactly one [1..1] Infection Present at the Time of Surgery Observation (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.205) (CONF:1101-30275).
7. **SHALL** contain exactly one [1..1] **entry** (CONF:1101-30294) such that it
  - a. **SHALL** contain exactly one [1..1] SSI Detected Using Toolkit Observation (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.206) (CONF:1101-30295).
8. **SHALL** contain exactly one [1..1] **entry** (CONF:1101-30296) such that it
  - a. **SHALL** contain exactly one [1..1] Procedure Details Clinical Statement in an Infection-Type Report (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.154) (CONF:1101-30297).



**Figure 9: 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>
```

## 2.1.10 Infection Risk Factors Section in a BSI Report

[section: identifier urn:oid:2.16.840.1.113883.10.20.5.5.33 (closed)]

**Table 63: Infection Risk Factors Section in a BSI Report Contexts**

Contained By:	Contains:
<a href="#">HAI Bloodstream Infection Report (BSI)</a> (required)	<a href="#">Infection Risk Factors Measurement Observation</a> <a href="#">Infection Risk Factors Observation</a>

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 64: Infection Risk Factors Section in a BSI Report Constraints Overview**

XPath	Card.	Verb	Data Type	CONF#	Value
section (identifier: urn:oid:2.16.840.1.113883.10.20.5.5.33)					
templateId	1..1	SHALL		<a href="#">86-22266</a>	
@root	1..1	SHALL		<a href="#">86-22267</a>	2.16.840.1.113883.10.20.5.5.33
code	1..1	SHALL		<a href="#">86-22268</a>	
@code	1..1	SHALL		<a href="#">86-22269</a>	2.16.840.1.113883.6.1 (LOINC) = 51898-5
entry	1..2	SHALL		<a href="#">86-23203</a>	
observation	1..1	SHALL		<a href="#">86-23204</a>	<a href="#">Infection Risk Factors Observation (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.138)</a>
entry	0..1	MAY		<a href="#">86-23208</a>	
observation	1..1	SHALL		<a href="#">86-23209</a>	<a href="#">Infection Risk Factors Measurement Observation (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.137)</a>

1. Conforms to [HAI Section Generic Constraints](#) template (identifier: urn:oid:2.16.840.1.113883.10.20.5.4.26).
2. **SHALL** contain exactly one [1..1] **templateId** (CONF:86-22266) such that it

- a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.5.5.33" (CONF:86-22267).
- 3. **SHALL** contain exactly one [1..1] **code** (CONF:86-22268).
  - a. 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:86-22269).
- 4. **SHALL** contain at least one and not more than 2 **entry** (CONF:86-23203) such that it
  - a. **SHALL** contain exactly one [1..1] Infection Risk Factors Observation (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.138) (CONF:86-23204).
  - b. 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:86-23205).
  - c. 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:86-23206).
  - d. 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:86-23207).
- 5. **MAY** contain zero or one [0..1] **entry** (CONF:86-23208) such that it
  - a. **SHALL** contain exactly one [1..1] Infection Risk Factors Measurement Observation (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.137) (CONF:86-23209).
  - b. 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:86-23210).

**Figure 10: 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>
```

### 2.1.11 Infection Risk Factors Section in a CLIP Report (V2)

```
[section: identifier urn:hl7ii:2.16.840.1.113883.10.20.5.5.34:2014-12-01
(closed)]
```

**Table 65: Infection Risk Factors Section in a CLIP Report (V2) Contexts**

Contained By:	Contains:
<a href="#">HAI Central-Line Insertion Practice Numerator Report [V2]</a> (required)	<a href="#">Antimicrobial Coated Catheter Used Observation</a> <a href="#">Central-Line Insertion Practice Clinical Statement (V2)</a>

In a Central Line Insertion Practice (CLIP) Report, the Infection Risk Factors Section contains a single Central-Line Insertion Practice Clinical Statement, which contains a set of sequenced events. This section also optionally contains an Antimicrobial Coated Catheter Used Observation.

**Table 66: Infection Risk Factors Section in a CLIP Report (V2) Constraints Overview**

XPath	Card.	Verb	Data Type	CONF#	Value
section (identifier: urn:hl7ii:2.16.840.1.113883.10.20.5.5.34:2014-12-01)					
templateId	1..1	SHALL		<a href="#">1129-22277</a>	
@root	1..1	SHALL		<a href="#">1129-28199</a>	2.16.840.1.113883.10.20.5.5.34
@extension	1..1	SHALL		<a href="#">1129-30288</a>	2014-12-01
code	1..1	SHALL		<a href="#">1129-22273</a>	
@code	1..1	SHALL		<a href="#">1129-22274</a>	51898-5
@codeSystem	1..1	SHALL		<a href="#">1129-28198</a>	2.16.840.1.113883.6.1 (LOINC) = 2.16.840.1.113883.6.1
entry	1..1	SHALL		<a href="#">1129-22275</a>	
act	1..1	SHALL		<a href="#">1129-30430</a>	<a href="#">Central-Line Insertion Practice Clinical Statement (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.5.6.116:2014-12-01)</a>
entry	0..1	SHOULD		<a href="#">1129-28213</a>	
observation	1..1	SHALL		<a href="#">1129-28214</a>	<a href="#">Antimicrobial Coated Catheter Used Observation (identifier: urn:hl7ii:2.16.840.1.113883.10.20.5.6.217:2014-12-01)</a>

1. Conforms to [HAI Section Generic Constraints](#) template (identifier: urn:oid:2.16.840.1.113883.10.20.5.4.26).
2. **SHALL** contain exactly one [1..1] **templateId** (CONF:1129-22277) such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.5.5.34" (CONF:1129-28199).
  - b. **SHALL** contain exactly one [1..1] **@extension**="2014-12-01" (CONF:1129-30288).
3. **SHALL** contain exactly one [1..1] **code** (CONF:1129-22273).
  - a. This code **SHALL** contain exactly one [1..1] **@code**="51898-5" Risk Factors Section (CONF:1129-22274).
  - b. 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:1129-28198).
4. **SHALL** contain exactly one [1..1] **entry** (CONF:1129-22275) such that it
  - a. **SHALL** contain exactly one [1..1] [Central-Line Insertion Practice Clinical Statement \(V2\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.5.6.116:2014-12-01) (CONF:1129-30430).

5. **SHOULD** contain zero or one [0..1] **entry** (CONF:1129-28213) such that it
- a. **SHALL** contain exactly one [1..1] [Antimicrobial Coated Catheter Used Observation](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.5.6.217:2014-12-01) (CONF:1129-28214).

**Figure 11: 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"
    extension="2014-12-01"/>
  <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 (V2) template-->
      <templateId root="2.16.840.1.113883.10.20.5.6.116"
        extension="2014-12-01" />
      ...
    </act>
  </entry>
  <entry>
    <observation>
      <!-- Antimicrobial Coated Catheter Used Observation template-->
      <templateId root="2.16.840.1.113883.10.20.5.6.217"
        extension="2014-12-01" />
      ...
    </observation>
  </entry>
</section>
```

## 2.1.12 Infection Risk Factors Section in a Procedure Report

[section: identifier urn:oid:2.16.840.1.113883.10.20.5.5.35 (closed)]

**Table 67: Infection Risk Factors Section in a Procedure Report Contexts**

Contained By:	Contains:
<a href="#">HAI Procedure Denominator Report (V2)</a> (required)	<a href="#">ASA Class Observation</a> <a href="#">Diabetes Mellitus Observation</a> <a href="#">Duration of Labor Observation</a> <a href="#">Height Observation</a> <a href="#">Procedure Risk Factors Clinical Statement in a Procedure Report</a> <a href="#">Trauma Observation</a> <a href="#">Weight Observation</a>

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 68: Infection Risk Factors Section in a Procedure Report Constraints Overview**

XPath	Card.	Verb	Data Type	CONF#	Value
section (identifier: urn:oid:2.16.840.1.113883.10.20.5.5.35)					
templateId	1..1	SHALL		<a href="#">86-22279</a>	
@root	1..1	SHALL		<a href="#">86-22280</a>	2.16.840.1.113883.10.20.5.5.35
code	1..1	SHALL		<a href="#">86-22281</a>	
@code	1..1	SHALL		<a href="#">86-22282</a>	2.16.840.1.113883.6.1 (LOINC) = 51898-5
entry	1..1	SHALL		<a href="#">86-22283</a>	
procedure	1..1	SHALL		<a href="#">86-22284</a>	<a href="#">Procedure Risk Factors Clinical Statement in a Procedure Report (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.156)</a>
entry	1..1	SHALL		<a href="#">86-22285</a>	
observation	1..1	SHALL		<a href="#">86-22286</a>	<a href="#">Trauma Observation (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.170)</a>
entry	1..1	SHALL		<a href="#">86-22287</a>	
observation	1..1	SHALL		<a href="#">86-22288</a>	<a href="#">Diabetes Mellitus Observation (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.123)</a>
entry	1..1	SHALL		<a href="#">86-22289</a>	
observation	1..1	SHALL		<a href="#">86-22290</a>	<a href="#">Height Observation (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.131)</a>
entry	1..1	SHALL		<a href="#">86-22291</a>	
observation	1..1	SHALL		<a href="#">86-22292</a>	<a href="#">Weight Observation (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.173)</a>
entry	0..1	MAY		<a href="#">86-23211</a>	
observation	1..1	SHALL		<a href="#">86-23212</a>	<a href="#">ASA Class Observation (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.113)</a>
entry	0..1	MAY		<a href="#">86-23214</a>	
observation	1..1	SHALL		<a href="#">86-</a>	<a href="#">Duration of Labor Observation</a>



				23215	(identifier: <a href="#">urn:oid:2.16.840.1.113883.10.20.5.6.127</a>
--	--	--	--	-------	---

1. Conforms to [HAI Section Generic Constraints](#) template (identifier: urn:oid:2.16.840.1.113883.10.20.5.4.26).
2. **SHALL** contain exactly one [1..1] **templateId** (CONF:86-22279) such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.5.5.35" (CONF:86-22280).
3. **SHALL** contain exactly one [1..1] **code** (CONF:86-22281).
  - a. 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:86-22282).
4. **SHALL** contain exactly one [1..1] **entry** (CONF:86-22283) such that it
  - a. **SHALL** contain exactly one [1..1] [Procedure Risk Factors Clinical Statement in a Procedure Report](#) (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.156) (CONF:86-22284).
5. **SHALL** contain exactly one [1..1] **entry** (CONF:86-22285) such that it
  - a. **SHALL** contain exactly one [1..1] [Trauma Observation](#) (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.170) (CONF:86-22286).
6. **SHALL** contain exactly one [1..1] **entry** (CONF:86-22287) such that it
  - a. **SHALL** contain exactly one [1..1] [Diabetes Mellitus Observation](#) (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.123) (CONF:86-22288).
7. **SHALL** contain exactly one [1..1] **entry** (CONF:86-22289) such that it
  - a. **SHALL** contain exactly one [1..1] [Height Observation](#) (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.131) (CONF:86-22290).
8. **SHALL** contain exactly one [1..1] **entry** (CONF:86-22291) such that it
  - a. **SHALL** contain exactly one [1..1] [Weight Observation](#) (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.173) (CONF:86-22292).
9. **MAY** contain zero or one [0..1] **entry** (CONF:86-23211) such that it
  - a. **SHALL** contain exactly one [1..1] [ASA Class Observation](#) (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.113) (CONF:86-23212).
  - b. If the patient is an inpatient (componentOf/encompassingEncounter/code/@code="IMP"), an entry element **SHALL** be present containing an ASA Class Observation (CONF:86-23213).
10. **MAY** contain zero or one [0..1] **entry** (CONF:86-23214) such that it
  - a. **SHALL** contain exactly one [1..1] [Duration of Labor Observation](#) (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.127) (CONF:86-23215).
  - b. 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:86-23216).

**Figure 12: 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>

```

### 2.1.13 Infection Risk Factors Section in a UTI Report

[section: identifier urn:oid:2.16.840.1.113883.10.20.5.5.36 (closed)]

**Table 69: Infection Risk Factors Section in a UTI Report Contexts**

Contained By:	Contains:
<a href="#">HAI Urinary Tract Infection Numerator Report (UTI)</a> (required)	<a href="#">Urinary Catheter Observation</a>

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

**Table 70: Infection Risk Factors Section in a UTI Report Constraints Overview**

XPath	Card.	Verb	Data Type	CONF#	Value
section (identifier: urn:oid:2.16.840.1.113883.10.20.5.5.36)					
templateId	1..1	SHALL		<a href="#">86-22300</a>	
@root	1..1	SHALL		<a href="#">86-22301</a>	2.16.840.1.113883.10.20.5.5.36
code	1..1	SHALL		<a href="#">86-22296</a>	
@code	1..1	SHALL		<a href="#">86-22297</a>	2.16.840.1.113883.6.1 (LOINC) = 51898-5
entry	1..1	SHALL		<a href="#">86-22298</a>	
observation	1..1	SHALL		<a href="#">86-22299</a>	<a href="#">Urinary Catheter Observation (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.171)</a>

1. Conforms to [HAI Section Generic Constraints](#) template (identifier: urn:oid:2.16.840.1.113883.10.20.5.4.26).
2. **SHALL** contain exactly one [1..1] **templateId** (CONF:86-22300) such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.5.5.36" (CONF:86-22301).
3. **SHALL** contain exactly one [1..1] **code** (CONF:86-22296).

- a. 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:86-22297).
4. **SHALL** contain exactly one [1..1] **entry** (CONF:86-22298).
  - a. This entry **SHALL** contain exactly one [1..1] [Urinary Catheter Observation](#) (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.171) (CONF:86-22299).

**Figure 13: 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>

```

#### 2.1.14 Other Event Details Section

[section: identifier urn:oid:2.16.840.1.113883.10.20.5.5.54 (closed)]

**Table 71: Other Event Details Section Contexts**

Contained By:	Contains:
<a href="#">HAI Outpatient Procedure Component (OPC) Event Report</a> (required)	<a href="#">Prophylactic IV Antibiotic Timing Observation</a> <a href="#">Same Day Outcome Measures Organizer</a>

In an Outpatient Procedure Component Event Report, the Other Event Details Section contains details about non-infectious events such as same-day outcome measures and antibiotic timing.

**Table 72: Other Event Details Section Constraints Overview**

XPath	Card.	Verb	Data Type	CONF#	Value
section (identifier: urn:oid:2.16.840.1.113883.10.20.5.5.54)					
templateId	1..1	SHALL		<a href="#">1113-21684</a>	
@root	1..1	SHALL		<a href="#">1113-21688</a>	2.16.840.1.113883.10.20.5.5.54
code	1..1	SHALL		<a href="#">1113-21685</a>	
@code	1..1	SHALL		<a href="#">1113-21689</a>	51899-3
@codeSystem	1..1	SHALL		<a href="#">1113-21725</a>	2.16.840.1.113883.6.1 (LOINC) = 2.16.840.1.113883.6.1
entry	0..*	SHOULD		<a href="#">1113-21683</a>	
organizer	0..1	SHOULD		<a href="#">1113-21788</a>	<a href="#">Same Day Outcome Measures Organizer (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.212)</a>
entry	1..1	SHALL		<a href="#">1113-21686</a>	
observation	1..1	SHALL		<a href="#">1113-21690</a>	<a href="#">Prophylactic IV Antibiotic Timing Observation (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.209)</a>

1. Conforms to [HAI Section Generic Constraints](#) template (identifier: urn:oid:2.16.840.1.113883.10.20.5.4.26).
2. **SHALL** contain exactly one [1..1] **templateId** (CONF:1113-21684) such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.5.5.54" (CONF:1113-21688).
3. **SHALL** contain exactly one [1..1] **code** (CONF:1113-21685).
  - a. This code **SHALL** contain exactly one [1..1] **@code**="51899-3" Event Details (CONF:1113-21689).
  - b. 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:1113-21725).
4. **SHOULD** contain zero or more [0..\*] **entry** (CONF:1113-21683) such that it
  - a. **SHOULD** contain zero or one [0..1] [Same Day Outcome Measures Organizer](#) (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.212) (CONF:1113-21788).
5. **SHALL** contain exactly one [1..1] **entry** (CONF:1113-21686) such that it
  - a. **SHALL** contain exactly one [1..1] [Prophylactic IV Antibiotic Timing Observation](#) (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.209) (CONF:1113-21690).

**Figure 14: Other Event Details Section Example**

```

<section>
  <!-- HAI Generic section templateId -->
  <templateId root="2.16.840.1.113883.10.20.5.4.26" />
  <!-- Other Event Details Section templateId -->
  <templateId root="2.16.840.1.113883.10.20.5.5.54" />
  <code codeSystem="2.16.840.1.113883.6.1"
        codeSystemName="LOINC"
        code="51899-3"
        displayName="Event Details" />
  <title>Other Event Details</title>
  ...
  <entry typeCode="DRIV">
    <!-- Same Day Outcome Measure Organizer-->
    <organizer classCode="CLUSTER" moodCode="EVN">
      <!-- Same Day Outcome Measure Organizer templateId -->
      <templateId root="2.16.840.1.113883.10.20.5.6.212" />
      ...
    </organizer>
  </entry>
  <entry typeCode="DRIV">
    <!-- Prophylactic IV Antibiotic Timing Observation -->
    <observation classCode="OBS" moodCode="EVN" negationInd="false">
      <!-- Prophylactic IV Antibiotic Timing Observation templateId -->
      <templateId root="2.16.840.1.113883.10.20.5.6.209" />
      ...
    </observation>
  </entry>
</section>

```

### 2.1.15 Procedure Details Section in a CLIP Report

[section: identifier urn:oid:2.16.840.1.113883.10.20.5.5.42 (closed)]

**Table 73: Procedure Details Section in a CLIP Report Contexts**

Contained By:	Contains:
<a href="#">HAI Central-Line Insertion Practice Numerator Report (V2)</a> (required)	<a href="#">Procedure Details Clinical Statement in a CLIP Report</a>

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

**Table 74: Procedure Details Section in a CLIP Report Constraints Overview**

XPath	Card.	Verb	Data Type	CONF#	Value
section (identifier: urn:oid:2.16.840.1.113883.10.20.5.5.42)					
templateId	1..1	SHALL		<a href="#">86-22352</a>	
@root	1..1	SHALL		<a href="#">86-22353</a>	2.16.840.1.113883.10.20.5.5.42
code	1..1	SHALL		<a href="#">86-22354</a>	
@code	1..1	SHALL		<a href="#">86-22355</a>	2.16.840.1.113883.6.1 (LOINC) = 51899-3
entry	1..1	SHALL		<a href="#">86-22356</a>	
procedure	1..1	SHALL		<a href="#">86-22357</a>	<a href="#">Procedure Details Clinical Statement in a CLIP Report (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.155)</a>

1. Conforms to [HAI Section Generic Constraints](#) template (identifier: urn:oid:2.16.840.1.113883.10.20.5.4.26).
2. **SHALL** contain exactly one [1..1] **templateId** (CONF:86-22352) such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.5.5.42" (CONF:86-22353).
3. **SHALL** contain exactly one [1..1] **code** (CONF:86-22354).
  - a. This code **SHALL** contain exactly one [1..1] **@code**="51899-3" Details Section (CodeSystem: LOINC 2.16.840.1.113883.6.1 **STATIC**) (CONF:86-22355).
4. **SHALL** contain exactly one [1..1] **entry** (CONF:86-22356).
  - a. This entry **SHALL** contain exactly one [1..1] [Procedure Details Clinical Statement in a CLIP Report](#) (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.155) (CONF:86-22357).

**Figure 15: 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>
```

### 2.1.16 Procedure Details Section in a Procedure Report (V2)

[section: identifier urn:oid:2.16.840.1.113883.10.20.5.5.43.2 (closed)]

**Table 75: Procedure Details Section in a Procedure Report (V2) Contexts**

Contained By:	Contains:
<a href="#">HAI Procedure Denominator Report (V2)</a> (required)	<a href="#">Procedure Details Clinical Statement in a Procedure Report (V2)</a>

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



**Table 76: Procedure Details Section in a Procedure Report (V2) Constraints Overview**

XPath	Card.	Verb	Data Type	CONF#	Value
section (identifier: urn:oid:2.16.840.1.113883.10.20.5.5.43.2)					
templateId	1..1	SHALL		<a href="#">1101-22358</a>	
@root	1..1	SHALL		<a href="#">1101-30248</a>	2.16.840.1.113883.10.20.5.5.43.2
code	1..1	SHALL		<a href="#">1101-22360</a>	
@code	1..1	SHALL		<a href="#">1101-22361</a>	2.16.840.1.113883.6.1 (LOINC) = 51899-3
entry	1..1	SHALL		<a href="#">1101-22362</a>	
procedure	1..1	SHALL		<a href="#">1101-30249</a>	<a href="#">Procedure Details Clinical Statement in a Procedure Report (V2) (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.153.2</a>

1. Conforms to [HAI Section Generic Constraints](#) template (identifier: urn:oid:2.16.840.1.113883.10.20.5.4.26).
2. **SHALL** contain exactly one [1..1] **templateId** (CONF:1101-22358) such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.5.5.43.2" (CONF:1101-30248).
3. **SHALL** contain exactly one [1..1] **code** (CONF:1101-22360).
  - a. This code **SHALL** contain exactly one [1..1] **@code**="51899-3" Details Section (CodeSystem: LOINC 2.16.840.1.113883.6.1 **STATIC**) (CONF:1101-22361).
4. **SHALL** contain exactly one [1..1] **entry** (CONF:1101-22362).
  - a. This entry **SHALL** contain exactly one [1..1] [Procedure Details Clinical Statement in a Procedure Report \(V2\)](#) (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.153.2) (CONF:1101-30249).

**Figure 16: 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>
```

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

[section: identifier urn:oid:2.16.840.1.113883.10.20.5.5.37 (closed)]

**Table 77: Risk Factors Section in an Evidence of Infection (Dialysis) Report Contexts**

Contained By:	Contains:
<a href="#">HAI Evidence of Infection (Dialysis) Report (V3)</a> (required)	<a href="#">Dialysis Patient Observation</a> <a href="#">Vascular Access Type Observation</a>

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 78: Risk Factors Section in an Evidence of Infection (Dialysis) Report Constraints Overview**

XPath	Card.	Verb	Data Type	CONF#	Value
section (identifier: urn:oid:2.16.840.1.113883.10.20.5.5.37)					
templateId	1..1	SHALL		<a href="#">86-22302</a>	
@root	1..1	SHALL		<a href="#">86-22303</a>	2.16.840.1.113883.10.20.5.5.37
code	1..1	SHALL		<a href="#">86-22304</a>	
@code	1..1	SHALL		<a href="#">86-22305</a>	2.16.840.1.113883.6.1 (LOINC) = 51898-5
entry	1..1	SHALL		<a href="#">86-22306</a>	
observation	1..1	SHALL		<a href="#">86-22307</a>	<a href="#">Dialysis Patient Observation (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.125)</a>
entry	6..6	SHALL		<a href="#">86-22308</a>	
observation	1..1	SHALL		<a href="#">86-22309</a>	<a href="#">Vascular Access Type Observation (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.172)</a>

1. Conforms to [HAI Section Generic Constraints](#) template (identifier: urn:oid:2.16.840.1.113883.10.20.5.4.26).
2. **SHALL** contain exactly one [1..1] **templateId** (CONF:86-22302) such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.5.5.37" (CONF:86-22303).
3. **SHALL** contain exactly one [1..1] **code** (CONF:86-22304).
  - a. 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:86-22305).
4. **SHALL** contain exactly one [1..1] **entry** (CONF:86-22306) such that it
  - a. **SHALL** contain exactly one [1..1] [Dialysis Patient Observation](#) (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.125) (CONF:86-22307).
5. **SHALL** contain [6..6] **entry** (CONF:86-22308) such that it
  - a. **SHALL** contain exactly one [1..1] [Vascular Access Type Observation](#) (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.172) (CONF:86-22309).

**Figure 17: 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>
```

## 2.1.18 Summary Data Section

[section: identifier urn:oid:2.16.840.1.113883.10.20.5.5.47 (closed)]

**Table 79: Summary Data Section Contexts**

Contained By:	Contains:
<a href="#">Specialty Care Area (SCA) Summary Report (V2)</a> (required) <a href="#">Intensive Care Unit (ICU) Summary Report (V2)</a> (required)	<a href="#">Summary Encounter</a>

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 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: urn:oid:2.16.840.1.113883.10.20.5.5.47)					
templateId	1..1	SHALL		<a href="#">86-22386</a>	
@root	1..1	SHALL		<a href="#">86-22387</a>	2.16.840.1.113883.10.20.5.5.47
code	1..1	SHALL		<a href="#">86-22388</a>	
@code	1..1	SHALL		<a href="#">86-22389</a>	2.16.840.1.113883.6.1 (LOINC) = 51900-9
entry	1..*	SHALL		<a href="#">86-22390</a>	
encounter	1..1	SHALL		<a href="#">86-22391</a>	<a href="#">Summary Encounter (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.184</a>

1. Conforms to [HAI Section Generic Constraints](#) template (identifier: urn:oid:2.16.840.1.113883.10.20.5.4.26).
2. **SHALL** contain exactly one [1..1] **templateId** (CONF:86-22386) such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.5.5.47" (CONF:86-22387).
3. **SHALL** contain exactly one [1..1] **code** (CONF:86-22388).
  - a. 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:86-22389).
4. **SHALL** contain at least one [1..\*] **entry** (CONF:86-22390).
  - a. Such entries **SHALL** contain exactly one [1..1] [Summary Encounter](#) (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.184) (CONF:86-22391).

**Figure 18: 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>
```

### 2.1.19 Summary Data Section (ARO)

[section: identifier urn:oid:2.16.840.1.113883.10.20.5.5.52 (closed)]

**Table 81: Summary Data Section (ARO) Contexts**

Contained By:	Contains:
<a href="#">Antimicrobial Resistance Option (ARO) Summary Report</a> (required)	<a href="#">Summary Encounter (ARO)</a>

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 82: Summary Data Section (ARO) Constraints Overview**

XPath	Card.	Verb	Data Type	CONF#	Value
section (identifier: urn:oid:2.16.840.1.113883.10.20.5.5.52)					
templateId	1..1	SHALL		<a href="#">86-23070</a>	
@root	1..1	SHALL		<a href="#">86-23071</a>	2.16.840.1.113883.10.20.5.5.52
code	1..1	SHALL		<a href="#">86-23072</a>	
@code	1..1	SHALL		<a href="#">86-23073</a>	2.16.840.1.113883.6.1 (LOINC) = 51900-9
entry	1..*	SHALL		<a href="#">86-23074</a>	
encounter	1..1	SHALL		<a href="#">86-23075</a>	<a href="#">Summary Encounter (ARO) (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.199)</a>

1. Conforms to [HAI Section Generic Constraints](#) template (identifier: urn:oid:2.16.840.1.113883.10.20.5.4.26).
2. **SHALL** contain exactly one [1..1] **templateId** (CONF:86-23070) such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.5.5.52" (CONF:86-23071).
3. **SHALL** contain exactly one [1..1] **code** (CONF:86-23072).
  - a. 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:86-23073).
4. **SHALL** contain at least one [1..\*] **entry** (CONF:86-23074).
  - a. Such entries **SHALL** contain exactly one [1..1] [Summary Encounter \(ARO\)](#) (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.199) (CONF:86-23075).

**Figure 19: 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>
```

## 2.1.20 Summary Data Section (AUP)

[section: identifier urn:oid:2.16.840.1.113883.10.20.5.5.51 (closed)]

**Table 83: Summary Data Section (AUP) Contexts**

Contained By:	Contains:
<a href="#">Antimicrobial Use (AUP) Summary Report</a> (required)	<a href="#">Summary Encounter (AUP)</a> <a href="#">Summary Encounter Patient Presence (AUP)</a>

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 (AUP) extends its generic equivalent but is specific to the Antimicrobial Use (AUP) Summary Report.



**Table 84: Summary Data Section (AUP) Constraints Overview**

XPath	Card.	Verb	Data Type	CONF#	Value
section (identifier: urn:oid:2.16.840.1.113883.10.20.5.5.51)					
templateId	1..1	SHALL		<a href="#">86-23013</a>	
@root	1..1	SHALL		<a href="#">86-23014</a>	2.16.840.1.113883.10.20.5.5.51
code	1..1	SHALL		<a href="#">86-23015</a>	
@code	1..1	SHALL		<a href="#">86-23016</a>	2.16.840.1.113883.6.1 (LOINC) = 51900-9
entry	1..1	SHALL		<a href="#">86-23017</a>	
encounter	1..1	SHALL		<a href="#">86-23018</a>	<a href="#">Summary Encounter Patient Presence (AUP) (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.197)</a>
entry	1..*	SHALL		<a href="#">86-23046</a>	
encounter	1..1	SHALL		<a href="#">86-23047</a>	<a href="#">Summary Encounter (AUP) (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.198)</a>

1. Conforms to [HAI Section Generic Constraints](#) template (identifier: urn:oid:2.16.840.1.113883.10.20.5.4.26).
2. **SHALL** contain exactly one [1..1] **templateId** (CONF:86-23013) such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.5.5.51" (CONF:86-23014).
3. **SHALL** contain exactly one [1..1] **code** (CONF:86-23015).
  - a. 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:86-23016).
4. **SHALL** contain exactly one [1..1] **entry** (CONF:86-23017) such that it
  - a. **SHALL** contain exactly one [1..1] [Summary Encounter Patient Presence \(AUP\)](#) (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.197) (CONF:86-23018).
5. **SHALL** contain at least one [1..\*] **entry** (CONF:86-23046) such that it
  - a. **SHALL** contain exactly one [1..1] [Summary Encounter \(AUP\)](#) (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.198) (CONF:86-23047).

**Figure 20: 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>
```

### 2.1.21 Summary Data Section (NICU)

[section: identifier urn:oid:2.16.840.1.113883.10.20.5.5.48 (closed)]

**Table 85: Summary Data Section (NICU) Contexts**

Contained By:	Contains:
<a href="#">Neonatal Intensive Care Unit (NICU) Summary Report [V2]</a> (required)	<a href="#">Summary Encounter (NICU)</a>

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 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 86: Summary Data Section (NICU) Constraints Overview**

XPath	Card.	Verb	Data Type	CONF#	Value
section (identifier: urn:oid:2.16.840.1.113883.10.20.5.5.48)					
templateId	1..1	SHALL		<a href="#">86-22837</a>	
@root	1..1	SHALL		<a href="#">86-22838</a>	2.16.840.1.113883.10.20.5.5.48
code	1..1	SHALL		<a href="#">86-22839</a>	
@code	1..1	SHALL		<a href="#">86-22840</a>	2.16.840.1.113883.6.1 (LOINC) = 51900-9
entry	1..*	SHALL		<a href="#">86-22841</a>	
encounter	1..1	SHALL		<a href="#">86-22842</a>	<a href="#">Summary Encounter (NICU) (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.191)</a>

1. Conforms to [HAI Section Generic Constraints](#) template (identifier: urn:oid:2.16.840.1.113883.10.20.5.4.26).
2. **SHALL** contain exactly one [1..1] **templateId** (CONF:86-22837) such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.5.5.48" (CONF:86-22838).
3. **SHALL** contain exactly one [1..1] **code** (CONF:86-22839).
  - a. 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:86-22840).
4. **SHALL** contain at least one [1..\*] **entry** (CONF:86-22841).
  - a. Such entries **SHALL** contain exactly one [1..1] [Summary Encounter \(NICU\)](#) (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.191) (CONF:86-22842).

**Figure 21: 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>
```

## 2.1.22 Summary Data Section (OPC)

[section: identifier urn:oid:2.16.840.1.113883.10.20.5.5.56 (closed)]

**Table 87: Summary Data Section (OPC) Contexts**

Contained By:	Contains:
<a href="#">HAI Outpatient Procedure Component (OPC) Summary Report</a> (required)	<a href="#">Summary Encounter (OPC)</a>

The Summary Data Section (OPC) is used in the Outpatient Procedure Component (OPC) Summary Report. The specific counts to be reported in the various Summary Data Sections 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 (OPC) extends its generic equivalent but is specific to the Outpatient Procedure Component (OPC) Summary Report.

**Table 88: Summary Data Section (OPC) Constraints Overview**

XPath	Card.	Verb	Data Type	CONF#	Value
section (identifier: urn:oid:2.16.840.1.113883.10.20.5.5.56)					
templateId	1..1	SHALL		<a href="#">1113-21802</a>	
@root	1..1	SHALL		<a href="#">1113-21805</a>	2.16.840.1.113883.10.20.5.5.56
code	1..1	SHALL		<a href="#">1113-21803</a>	
@code	1..1	SHALL		<a href="#">1113-21806</a>	2.16.840.1.113883.6.1 (LOINC) = 51900-9
@codeSystem	1..1	SHALL		<a href="#">1113-21807</a>	2.16.840.1.113883.6.1 (LOINC) = 2.16.840.1.113883.6.1
entry	1..*	SHALL		<a href="#">1113-21801</a>	
encounter	1..1	SHALL		<a href="#">1113-21804</a>	<a href="#">Summary Encounter (OPC) (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.213)</a>

1. Conforms to [HAI Section Generic Constraints](#) template (identifier: urn:oid:2.16.840.1.113883.10.20.5.4.26).
2. **SHALL** contain exactly one [1..1] **templateId** (CONF:1113-21802) such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.5.5.56" (CONF:1113-21805).
3. **SHALL** contain exactly one [1..1] **code** (CONF:1113-21803).
  - a. 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:1113-21806).
  - b. 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:1113-21807).
4. **SHALL** contain at least one [1..\*] **entry** (CONF:1113-21801).
  - a. Such entries **SHALL** contain exactly one [1..1] [Summary Encounter \(OPC\)](#) (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.213) (CONF:1113-21804).

**Figure 22: Summary Data Section (OPC) Example**

```
<section>
  <!-- HAI Section Generic Constraints templateId -->
  <templateId root="2.16.840.1.113883.10.20.5.4.26" />
  <!-- Summary Data Section (OPC) templateId -->
  <templateId root="2.16.840.1.113883.10.20.5.5.56" />
  <code codeSystem="2.16.840.1.113883.6.1"
        codeSystemName="LOINC"
        code="51900-9"
        displayName="Summary Data Section" />
  <title>Summary Data Section (OPC)</title>
  <text>
    ...
  </text>
  <entry typeCode="DRIV">
    <!-- Summary Encounter (OPC) -->
    <encounter classCode="ENC" moodCode="EVN">
      <!-- Summary Encounter (OPC) templateId -->
      <templateId root="2.16.840.1.113883.10.20.5.6.213" />
      ...
    </encounter>
  </entry>
</section>
```

### 2.1.23 Summary Data Section (POM) (V2)

```
[section: identifier urn:hl7ii:2.16.840.1.113883.10.20.5.5.49:2014-12-01
(closed)]
```

**Table 89: Summary Data Section (POM) (V2) Contexts**

Contained By:	Contains:
<a href="#">Prevention Process and Outcome Measures (POM) Summary Report (V2)</a> (required)	<a href="#">Primary C. Difficile Testing Method This Quarter Summary Encounter (POM)</a>

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 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. For facility-wide reporting, at the end of each quarter, the NHSN protocol requires the primary C. difficile testing method used most often.

**Table 90: Summary Data Section (POM) (V2) Constraints Overview**

XPath	Card.	Verb	Data Type	CONF#	Value
section (identifier: urn:hl7ii:2.16.840.1.113883.10.20.5.5.49:2014-12-01)					
templateId	1..1	SHALL		<a href="#">1129-22880</a>	
@root	1..1	SHALL		<a href="#">1129-22881</a>	2.16.840.1.113883.10.20.5.5.49
@extension	1..1	SHALL		<a href="#">1129-30477</a>	2014-12-01
code	1..1	SHALL		<a href="#">1129-22882</a>	
@code	1..1	SHALL		<a href="#">1129-22883</a>	2.16.840.1.113883.6.1 (LOINC) = 51900-9
entry	1..*	SHALL		<a href="#">1129-22884</a>	
encounter	1..1	SHALL		<a href="#">1129-22885</a>	<a href="#">Summary Encounter (POM) (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.193)</a>
entry	0..1	SHOULD		<a href="#">1129-30333</a>	
observation	1..1	SHALL		<a href="#">1129-30334</a>	<a href="#">Primary C. Difficile Testing Method This Quarter (identifier: urn:hl7ii:2.16.840.1.113883.10.20.5.6.221:2014-12-01)</a>

1. Conforms to [HAI Section Generic Constraints](#) template (identifier: urn:oid:2.16.840.1.113883.10.20.5.4.26).
2. **SHALL** contain exactly one [1..1] **templateId** (CONF:1129-22880) such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.5.5.49" (CONF:1129-22881).
  - b. **SHALL** contain exactly one [1..1] **@extension**="2014-12-01" (CONF:1129-30477).
3. **SHALL** contain exactly one [1..1] **code** (CONF:1129-22882).
  - a. 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:1129-22883).
4. **SHALL** contain at least one [1..\*] **entry** (CONF:1129-22884) such that it
  - a. **SHALL** contain exactly one [1..1] [Summary Encounter \(POM\)](#) (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.193) (CONF:1129-22885).

Required per NHSN Protocol only if location is facility-wide and month is March, June, September, or December.

5. **SHOULD** contain zero or one [0..1] **entry** (CONF:1129-30333) such that it
  - a. **SHALL** contain exactly one [1..1] [Primary C. Difficile Testing Method This Quarter](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.5.6.221:2014-12-01) (CONF:1129-30334).

**Figure 23: Summary Data Section (POM) (V2) Example**

```
<section>
  <templateId root="2.16.840.1.113883.10.20.5.4.26"/>
  <templateId root="2.16.840.1.113883.10.20.5.5.49"
    extension="2014-12-01"/>
  <code codeSystem="2.16.840.1.113883.6.1"
    codeSystemName="LOINC"
    code="51900-9"
    displayName="Summary Section"/>
  <title>Summary Data</title>
  <text>
    ...
  </text>
  <entry typeCode="DRIV">
    <encounter classCode="ENC" moodCode="EVN">
      <!-- Summary Encounter (POM) (R1) -->
      <templateId root="2.16.840.1.113883.10.20.5.6.193"/>
      ...
    </encounter>
  </entry>
  <entry typeCode="DRIV">
    <!-- Primary C. Difficile Testing Method This Quarter -->
    <observation classCode="OBS" moodCode="EVN">
      <!-- Primary C. Difficile Testing Method This Quarter templateId -->
      <templateId root="2.16.840.1.113883.10.20.5.6.221"
        extension="2014-12-01"/>
      ...
    </observation>
  </entry>
</section>
```

#### 2.1.24 Summary Data Section (VAT)

[section: identifier urn:oid:2.16.840.1.113883.10.20.5.5.50 (closed)]

**Table 91: Summary Data Section (VAT) Contexts**

Contained By:	Contains:
<a href="#">Vascular Access Type Report (VAT) Summary Report</a> (required)	<a href="#">Summary Encounter (VAT)</a>

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 (VAT) extends its generic equivalent but is specific to the Vascular Access Type Report (VAT) Summary Report.



**Table 92: Summary Data Section (VAT) Constraints Overview**

XPath	Card.	Verb	Data Type	CONF#	Value
section (identifier: urn:oid:2.16.840.1.113883.10.20.5.5.50)					
templateId	1..1	SHALL		<a href="#">86-22945</a>	
@root	1..1	SHALL		<a href="#">86-22946</a>	2.16.840.1.113883.10.20.5.5.50
code	1..1	SHALL		<a href="#">86-22947</a>	
@code	1..1	SHALL		<a href="#">86-22948</a>	2.16.840.1.113883.6.1 (LOINC) = 51900-9
entry	1..*	SHALL		<a href="#">86-22949</a>	
encounter	1..1	SHALL		<a href="#">86-22950</a>	<a href="#">Summary Encounter (VAT) (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.196)</a>

1. Conforms to [HAI Section Generic Constraints](#) template (identifier: urn:oid:2.16.840.1.113883.10.20.5.4.26).
2. **SHALL** contain exactly one [1..1] **templateId** (CONF:86-22945) such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.5.5.50" (CONF:86-22946).
3. **SHALL** contain exactly one [1..1] **code** (CONF:86-22947).
  - a. 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:86-22948).
4. **SHALL** contain at least one [1..\*] **entry** (CONF:86-22949).
  - a. Such entries **SHALL** contain exactly one [1..1] [Summary Encounter \(VAT\)](#) (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.196) (CONF:86-22950).

**Figure 24: 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>
```

## 2.1.25 Surgical Site Infection Details Section in an OPC Report

[section: identifier urn:oid:2.16.840.1.113883.10.20.5.5.53 (closed)]

**Table 93: Surgical Site Infection Details Section in an OPC Report Contexts**

Contained By:	Contains:
<a href="#">HAI Outpatient Procedure Component (OPC) Event Report</a> (required)	<a href="#">Infection First Reported Source Observation</a> <a href="#">Procedure Category</a> <a href="#">Surgical Site Infection Observation</a>

This section records details of the surgical site infection in an OPC Report.

**Table 94: Surgical Site Infection Details Section in an OPC Report Constraints Overview**

XPath	Card.	Verb	Data Type	CONF#	Value
section (identifier: urn:oid:2.16.840.1.113883.10.20.5.5.53)					
templateId	1..1	SHALL		<a href="#">1113-27</a>	
@root	1..1	SHALL		<a href="#">1113-34</a>	2.16.840.1.113883.10.20.5.5.53
code	1..1	SHALL		<a href="#">1113-28</a>	
@code	1..1	SHALL		<a href="#">1113-35</a>	51899-3
@codeSystem	1..1	SHALL		<a href="#">1113-21724</a>	2.16.840.1.113883.6.1 (LOINC) = 2.16.840.1.113883.6.1
entry	1..1	SHALL		<a href="#">1113-26</a>	
observation	1..1	SHALL		<a href="#">1113-33</a>	<a href="#">Surgical Site Infection Observation (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.210)</a>
entry	0..1	MAY		<a href="#">1113-32</a>	
procedure	1..1	SHALL		<a href="#">1113-39</a>	<a href="#">Procedure Category (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.215)</a>
entry	1..*	SHALL		<a href="#">1113-48</a>	
observation	1..1	SHALL		<a href="#">1113-49</a>	<a href="#">Infection First Reported Source Observation (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.207)</a>

1. Conforms to [HAI Section Generic Constraints](#) template (identifier: urn:oid:2.16.840.1.113883.10.20.5.4.26).
2. **SHALL** contain exactly one [1..1] **templateId** (CONF:1113-27) such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.5.5.53" (CONF:1113-34).
3. **SHALL** contain exactly one [1..1] **code** (CONF:1113-28).
  - a. This code **SHALL** contain exactly one [1..1] **@code**="51899-3" Details Section (CONF:1113-35).
  - b. 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:1113-21724).
4. **SHALL** contain exactly one [1..1] **entry** (CONF:1113-26) such that it
  - a. **SHALL** contain exactly one [1..1] [Surgical Site Infection Observation](#) (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.210) (CONF:1113-33).

5. **MAY** contain zero or one [0..1] **entry** (CONF:1113-32) such that it
  - a. **SHALL** contain exactly one [1..1] Procedure Category (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.215) (CONF:1113-39).
6. **SHALL** contain at least one [1..\*] **entry** (CONF:1113-48) such that it
  - a. **SHALL** contain exactly one [1..1] Infection First Reported Source Observation (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.207) (CONF:1113-49).

**Figure 25: Surgical Site Infection Details Section in an OPC Report Example**

```

<section>
  <!-- HAI Generic Section templateId -->
  <templateId root="2.16.840.1.113883.10.20.5.4.26" />
  <!-- Surgical Site Infection Details Section templateId -->
  <templateId root="2.16.840.1.113883.10.20.5.5.53" />
  <code codeSystem="2.16.840.1.113883.6.1"
        codeSystemName="LOINC"
        code="51899-3"
        displayName="Details Section" />
  <title>Surgical Site Infection Details</title>
  ...
  <entry typeCode="DRIV">
    <!-- Procedure Category -->
    <procedure classCode="PROC" moodCode="EVN">
      <!-- Procedure Details in an OPC Report templateId -->
      <templateId root="2.16.840.1.113883.10.20.5.6.215" />
      ...
    </procedure>
  </entry>
  <entry typeCode="DRIV">
    <!-- Infection First Reported Source Observation -->
    <observation classCode="OBS" moodCode="EVN">
      <!-- Infection First Reported Source Observation templateId-->
      <templateId root="2.16.840.1.113883.10.20.5.6.207" />
      ...
    </observation>
  </entry>
  <entry typeCode="DRIV">
    <!-- Surgical Site Infection Observation -->
    <observation classCode="OBS" moodCode="EVN" negationInd="false">
      <!-- Surgical Site infection Observation templateId -->
      <templateId root="2.16.840.1.113883.10.20.5.6.210" />
      ...
    </observation>
  </entry>
</section>

```

### 3 ENTRY-LEVEL TEMPLATES

#### 3.1 Anesthesia Administration Clinical Statement

[substanceAdministration: identifier urn:oid:2.16.840.1.113883.10.20.5.6.112  
(closed)]

**Table 95: Anesthesia Administration Clinical Statement Contexts**

Contained By:	Contains:
<a href="#">Procedure Details Clinical Statement in a Procedure Report (V2)</a> (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 96: Anesthesia Administration Clinical Statement Constraints Overview**

<b>XPath</b>	<b>Card.</b>	<b>Verb</b>	<b>Data Type</b>	<b>CONF#</b>	<b>Value</b>
substanceAdministration (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.112)					
@classCode	1..1	SHALL		<a href="#">86-19560</a>	2.16.840.1.113883.5.6 (HL7ActClass) = SBADM
@moodCode	1..1	SHALL		<a href="#">86-19561</a>	2.16.840.1.113883.5.1001 (ActMood) = EVN
@negationInd	1..1	SHALL		<a href="#">86-19562</a>	
templateId	1..1	SHALL		<a href="#">86-28201</a>	
@root	1..1	SHALL		<a href="#">86-28202</a>	2.16.840.1.113883.10.20.22.4.16
templateId	1..1	SHALL		<a href="#">86-19570</a>	
@root	1..1	SHALL		<a href="#">86-19571</a>	2.16.840.1.113883.10.20.5.6.112
id	1..1	SHALL		<a href="#">86-19572</a>	
@nullFlavor	1..1	SHALL		<a href="#">86-22720</a>	NA
statusCode	1..1	SHALL		<a href="#">86-19573</a>	
@code	1..1	SHALL		<a href="#">86-19574</a>	2.16.840.1.113883.5.14 (ActStatus) = completed
effectiveTime	1..1	SHALL	IVL_TS	<a href="#">86-28331</a>	
low	1..1	SHALL		<a href="#">86-28332</a>	
@nullFlavor	1..1	SHALL		<a href="#">86-28335</a>	2.16.840.1.113883.5.1008 (HL7NullFlavor) = NA
high	1..1	SHALL		<a href="#">86-28333</a>	
@nullFlavor	1..1	SHALL		<a href="#">86-28336</a>	2.16.840.1.113883.5.1008 (HL7NullFlavor) = NA
consumable	1..1	SHALL		<a href="#">86-19563</a>	
manufacturedProduct	1..1	SHALL		<a href="#">86-19578</a>	
@classCode	1..1	SHALL		<a href="#">86-28349</a>	2.16.840.1.113883.5.110 (RoleClass) = MANU
templateId	1..1	SHALL		<a href="#">86-28334</a>	
@root	1..1	SHALL		<a href="#">86-28337</a>	2.16.840.1.113883.10.20.22.4.23

manufacturedMaterial	1..1	SHALL		<a href="#">86-19579</a>	
code	1..1	SHALL		<a href="#">86-19580</a>	
@code	1..1	SHALL		<a href="#">86-19581</a>	84451006
@codeSystem	1..1	SHALL		<a href="#">86-19582</a>	2.16.840.1.113883.6.96

1. Conforms to Medication Activity template (identifier: urn: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:86-19560).
3. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:86-19561).
4. **SHALL** contain exactly one [1..1] **@negationInd** (CONF:86-19562).
5. **SHALL** contain exactly one [1..1] **templateId** (CONF:86-28201) such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.22.4.16" (CONF:86-28202).
6. **SHALL** contain exactly one [1..1] **templateId** (CONF:86-19570) such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.5.6.112" (CONF:86-19571).
7. **SHALL** contain exactly one [1..1] **id** (CONF:86-19572).
  - a. This id **SHALL** contain exactly one [1..1] **@nullFlavor**="NA" (CONF:86-22720).
8. **SHALL** contain exactly one [1..1] **statusCode** (CONF:86-19573).
  - a. This statusCode **SHALL** contain exactly one [1..1] **@code**="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14) (CONF:86-19574).
9. **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:86-28331).
  - a. This effectiveTime **SHALL** contain exactly one [1..1] **low** (CONF:86-28332).
    - i. This low **SHALL** contain exactly one [1..1] **@nullFlavor**="NA" (CodeSystem: HL7NullFlavor 2.16.840.1.113883.5.1008) (CONF:86-28335).
  - b. This effectiveTime **SHALL** contain exactly one [1..1] **high** (CONF:86-28333).
    - i. This high **SHALL** contain exactly one [1..1] **@nullFlavor**="NA" (CodeSystem: HL7NullFlavor 2.16.840.1.113883.5.1008) (CONF:86-28336).
10. **SHALL** contain exactly one [1..1] **consumable** (CONF:86-19563).
  - a. This consumable **SHALL** contain exactly one [1..1] **manufacturedProduct** (CONF:86-19578).
    - i. This manufacturedProduct **SHALL** contain exactly one [1..1] **@classCode**="MANU" (CodeSystem: RoleClass 2.16.840.1.113883.5.110) (CONF:86-28349).
    - ii. This manufacturedProduct **SHALL** contain exactly one [1..1] **templateId** (CONF:86-28334) such that it
      1. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.22.4.23" (CONF:86-28337).

- iii. This manufacturedProduct **SHALL** contain exactly one [1..1] **manufacturedMaterial** (CONF:86-19579).
  1. This manufacturedMaterial **SHALL** contain exactly one [1..1] **code** (CONF:86-19580).
    - a. This code **SHALL** contain exactly one [1..1] **@code="84451006"** General Anesthesia (CONF:86-19581).
    - b. This code **SHALL** contain exactly one [1..1] **@codeSystem="2.16.840.1.113883.6.96"** (CONF:86-19582).

**Figure 26: Anesthesia Administration 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 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>
```

## 3.2 Antimicrobial Coated Catheter Used Observation

[observation: identifier urn:hl7ii:2.16.840.1.113883.10.20.5.6.217:2014-12-01  
(closed)]

**Table 97: Antimicrobial Coated Catheter Used Observation Contexts**

Contained By:	Contains:
<a href="#">Infection Risk Factors Section in a CLIP Report (V2)</a> (optional)	

This clinical statement represents whether an antimicrobial coated catheter was used.



If an antimicrobial coated catheter was used, set the value of @negationInd to false. If an antimicrobial coated catheter was not used, set the value of @negationInd to true.

**Table 98: Antimicrobial Coated Catheter Used Observation Constraints Overview**

XPath	Card.	Verb	Data Type	CONF#	Value
observation (identifier: urn:hl7ii:2.16.840.1.113883.10.20.5.6.217:2014-12-01)					
@classCode	1..1	SHALL		<a href="#">1129-28205</a>	2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		<a href="#">1129-28206</a>	2.16.840.1.113883.5.1001 (ActMood) = EVN
@negationInd	1..1	SHALL		<a href="#">1129-28207</a>	
templateId	1..1	SHALL		<a href="#">1129-30485</a>	
@root	1..1	SHALL		<a href="#">1129-30486</a>	2.16.840.1.113883.10.20.5.6.217
@extension	1..1	SHALL		<a href="#">1129-30487</a>	2014-12-01
code	1..1	SHALL		<a href="#">1129-28202</a>	
@code	1..1	SHALL	CS	<a href="#">1129-28210</a>	2.16.840.1.113883.5.4 (ActCode) = ASSERTION
statusCode	1..1	SHALL		<a href="#">1129-28203</a>	
@code	1..1	SHALL		<a href="#">1129-28211</a>	2.16.840.1.113883.5.14 (ActStatus) = completed
value	1..1	SHALL	CD	<a href="#">1129-28204</a>	
@code	1..1	SHALL		<a href="#">1129-28212</a>	2.16.840.1.113883.6.277 (cdcNHSN) = 6140-8

1. **SHALL** contain exactly one [1..1] @classCode="OBS" Observation (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 **STATIC**) (CONF:1129-28205).
2. **SHALL** contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:1129-28206).

If an antimicrobial coated catheter was used, set the value of @negationInd to false. If an antimicrobial coated catheter was not used set the value of @negationInd to true.

3. **SHALL** contain exactly one [1..1] @negationInd (CONF:1129-28207).
4. **SHALL** contain exactly one [1..1] templateId (CONF:1129-30485) such that it
  - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.6.217" (CONF:1129-30486).
  - b. **SHALL** contain exactly one [1..1] @extension="2014-12-01" (CONF:1129-30487).
5. **SHALL** contain exactly one [1..1] code (CONF:1129-28202).

- a. This code **SHALL** contain exactly one [1..1] @code="ASSERTION" Assertion (CodeSystem: ActCode 2.16.840.1.113883.5.4 **STATIC**) (CONF:1129-28210).
6. **SHALL** contain exactly one [1..1] statusCode (CONF:1129-28203).
  - a. This statusCode **SHALL** contain exactly one [1..1] @code="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14 **STATIC**) (CONF:1129-28211).
7. **SHALL** contain exactly one [1..1] value with @xsi:type="CD" (CONF:1129-28204).
  - a. This value **SHALL** contain exactly one [1..1] @code="6140-8" Antimicrobial coated catheter used (CodeSystem: cdcNHSN 2.16.840.1.113883.6.277 **STATIC**) (CONF:1129-28212).

**Figure 27: Antimicrobial Coated Catheter Used Observation Example**

```

<!-- Setting negationInd="false" indicates that an antimicrobial coated
      catheter was used -->
<observation moodCode="EVN" classCode="OBS" negationInd="false">
  <!-- Antimicrobial Coated Catheter Used Observation templateId -->
  <templateId root="2.16.840.1.113883.10.20.5.6.217"
    extension="2014-12-01"/>
  <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="6140-8"
    displayName="Antimicrobial coated catheter used" />
</observation>

```

### 3.3 Antimicrobial Susceptibility Antibiotic

[participant: identifier urn:oid:2.16.840.1.113883.10.20.5.6.176 (closed)]

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 99: Antimicrobial Susceptibility Antibiotic Constraints Overview**

XPath	Card.	Verb	Data Type	CONF#	Value
participant (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.176)					
@typeCode	1..1	SHALL		<a href="#">86-27113</a>	SBJ
templateId	1..1	SHALL		<a href="#">86-21084</a>	
@root	1..1	SHALL		<a href="#">86-21085</a>	2.16.840.1.113883.10.20.5.6.176
participantRole	1..1	SHALL		<a href="#">86-27114</a>	
@classCode	0..1	MAY		<a href="#">86-27115</a>	MANU
playingEntity	1..1	SHALL		<a href="#">86-27116</a>	
code	1..1	SHALL		<a href="#">86-27117</a>	2.16.840.1.114222.4.11.3360 (NHSNAntimicrobialAgentAURPCode)

1. **SHALL** contain exactly one [1..1] **@typeCode**="SBJ" (CONF:86-27113).
2. **SHALL** contain exactly one [1..1] **templateId** (CONF:86-21084) such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.5.6.176" (CONF:86-21085).
3. **SHALL** contain exactly one [1..1] **participantRole** (CONF:86-27114).
  - a. This participantRole **MAY** contain zero or one [0..1] **@classCode**="MANU" (CONF:86-27115).
  - b. This participantRole **SHALL** contain exactly one [1..1] **playingEntity** (CONF:86-27116).
    - i. This playingEntity **SHALL** contain exactly one [1..1] **code**, which **SHALL** be selected from ValueSet [NHSNAntimicrobialAgentAURPCode](#) 2.16.840.1.114222.4.11.3360 **DYNAMIC** (CONF:86-27117).

**Table 100: 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: <a href="http://phinivads.cdc.gov">http://phinivads.cdc.gov</a>			
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 28: 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>
```

### 3.4 Antimicrobial Susceptibility Final Interpretation Result

[observation: identifier urn:oid:2.16.840.1.113883.10.20.5.6.175 (closed)]

**Table 101: Antimicrobial Susceptibility Final Interpretation Result Contexts**

Contained By:	Contains:
<a href="#">Antimicrobial Susceptibility Tests Organizer (V2)</a> (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 102: Antimicrobial Susceptibility Final Interpretation Result Constraints Overview**

XPath	Card.	Verb	Data Type	CONF#	Value
observation (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.175)					
@classCode	1..1	SHALL		<a href="#">86-21067</a>	2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		<a href="#">86-21068</a>	2.16.840.1.113883.5.1001 (ActMood) = EVN
templateId	1..1	SHALL		<a href="#">86-28203</a>	
@root	1..1	SHALL		<a href="#">86-28204</a>	2.16.840.1.113883.10.20.22.4.2
templateId	1..1	SHALL		<a href="#">86-21071</a>	
@root	1..1	SHALL		<a href="#">86-21072</a>	2.16.840.1.113883.10.20.5.6.175
id	1..1	SHALL		<a href="#">86-21069</a>	
@nullFlavor	1..1	SHALL		<a href="#">86-21070</a>	NA
code	1..1	SHALL		<a href="#">86-21075</a>	
@code	1..1	SHALL		<a href="#">86-28099</a>	365705006
@codeSystem	1..1	SHALL		<a href="#">86-28100</a>	2.16.840.1.113883.6.96 (SNOMED CT) = 2.16.840.1.113883.6.96
statusCode	1..1	SHALL		<a href="#">86-21076</a>	
@code	1..1	SHALL		<a href="#">86-21077</a>	2.16.840.1.113883.5.14 (ActStatus) = completed
effectiveTime	1..1	SHALL		<a href="#">86-21078</a>	
@nullFlavor	1..1	SHALL		<a href="#">86-22630</a>	NA
value	1..1	SHALL	CD	<a href="#">86-21079</a>	2.16.840.1.113883.13.13 (NHSNDrugSusceptibilityFinding Code)

1. Conforms to Result Observation template (identifier: urn: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:86-21067).
3. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" (CodeSystem: ActMood 2.16.840.1.113883.5.1001) (CONF:86-21068).
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:86-28203) such that it

- a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.22.4.2" (CONF:86-28204).
5. **SHALL** contain exactly one [1..1] **templateId** (CONF:86-21071) such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.5.6.175" (CONF:86-21072).
6. **SHALL** contain exactly one [1..1] **id** (CONF:86-21069).
  - a. This id **SHALL** contain exactly one [1..1] **@nullFlavor**="NA" (CONF:86-21070).
7. **SHALL** contain exactly one [1..1] **code** (CONF:86-21075).
  - a. This code **SHALL** contain exactly one [1..1] **@code**="365705006" Final Interpretation Result (CONF:86-28099).
  - b. 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:86-28100).
8. **SHALL** contain exactly one [1..1] **statusCode** (CONF:86-21076).
  - a. This statusCode **SHALL** contain exactly one [1..1] **@code**="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14) (CONF:86-21077).
9. **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:86-21078).
  - a. This effectiveTime **SHALL** contain exactly one [1..1] **@nullFlavor**="NA" (CONF:86-22630).
10. **SHALL** contain exactly one [1..1] **value** with **@xsi:type**="CD", where the code **SHALL** be selected from ValueSet [NHSNDrugSusceptibilityFindingCode](#) 2.16.840.1.113883.13.13 (CONF:86-21079).

**Table 103: 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 29: 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>
```

### 3.5 Antimicrobial Susceptibility Isolate Participant

[participant: identifier urn:oid:2.16.840.1.113883.10.20.5.6.202 (closed)]

**Table 104: Antimicrobial Susceptibility Isolate Participant Contexts**

Contained By:	Contains:
<a href="#">Isolate Susceptibility Tests Organizer (V2)</a> (required)	

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



**Table 105: Antimicrobial Susceptibility Isolate Participant Constraints Overview**

XPath	Card.	Verb	Data Type	CONF#	Value
participant (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.202)					
@typeCode	1..1	SHALL		<a href="#">86-27150</a>	SBJ
templateId	1..1	SHALL		<a href="#">86-27137</a>	
@root	1..1	SHALL		<a href="#">86-27138</a>	2.16.840.1.113883.10.20.5.6.202
participantRole	1..1	SHALL		<a href="#">86-27151</a>	
@classCode	1..1	SHALL		<a href="#">86-27152</a>	ISLT
id	1..*	SHALL		<a href="#">86-27153</a>	
playingEntity	1..1	SHALL		<a href="#">86-27154</a>	
code	1..1	SHALL		<a href="#">86-27155</a>	2.16.840.1.113883.13.16 (NHSNPathogenCode)

1. **SHALL** contain exactly one [1..1] **@typeCode**="SBJ" (CONF:86-27150).
2. **SHALL** contain exactly one [1..1] **templateId** (CONF:86-27137) such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.5.6.202" (CONF:86-27138).
3. **SHALL** contain exactly one [1..1] **participantRole** (CONF:86-27151).
  - a. This participantRole **SHALL** contain exactly one [1..1] **@classCode**="ISLT" (CONF:86-27152).

This is the unique isolate identifier

- b. This participantRole **SHALL** contain at least one [1..\*] **id** (CONF:86-27153).
- c. This participantRole **SHALL** contain exactly one [1..1] **playingEntity** (CONF:86-27154).
  - i. This playingEntity **SHALL** contain exactly one [1..1] **code**, which **SHALL** be selected from ValueSet [NHSNPathogenCode](#) 2.16.840.1.113883.13.16 **DYNAMIC** (CONF:86-27155).

**Table 106: 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 30: 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>
```

### 3.6 Antimicrobial Susceptibility Result Observation (V2)

```
[observation: identifier urn:hl7ii:2.16.840.1.113883.10.20.5.6.186:2014-12-01
(closed)]
```

**Table 107: Antimicrobial Susceptibility Result Observation (V2) Contexts**

Contained By:	Contains:
<a href="#">Antimicrobial Susceptibility Result Organizer (V2)</a> (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 108: Antimicrobial Susceptibility Result Observation (V2) Constraints Overview**

XPath	Card.	Verb	Data Type	CONF#	Value
observation (identifier: urn:hl7ii:2.16.840.1.113883.10.20.5.6.186:2014-12-01)					
@classCode	1..1	SHALL		<a href="#">1129-22632</a>	2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		<a href="#">1129-22633</a>	2.16.840.1.113883.5.1001 (ActMood) = EVN
@negationInd	1..1	SHALL		<a href="#">1129-22699</a>	
templateId	1..1	SHALL		<a href="#">1129-30551</a>	
@root	1..1	SHALL		<a href="#">1129-30552</a>	2.16.840.1.113883.10.20.22.4.2
templateId	1..1	SHALL		<a href="#">1129-22634</a>	
@root	1..1	SHALL		<a href="#">1129-22635</a>	2.16.840.1.113883.10.20.5.6.186
@extension	1..1	SHALL		<a href="#">1129-30553</a>	2014-12-01
id	1..1	SHALL		<a href="#">1129-22636</a>	
@nullFlavor	1..1	SHALL		<a href="#">1129-22637</a>	NA
code	1..1	SHALL		<a href="#">1129-22638</a>	2.16.840.1.114222.4.11.7230 (NHSNArDrugSuscTestsCode)
statusCode	1..1	SHALL		<a href="#">1129-22639</a>	
@code	1..1	SHALL		<a href="#">1129-22640</a>	completed
effectiveTime	1..1	SHALL		<a href="#">1129-22641</a>	
@nullFlavor	1..1	SHALL		<a href="#">1129-22642</a>	NA
value	1..1	SHALL	IVL_PQ	<a href="#">1129-22643</a>	
low	0..1	MAY		<a href="#">1129-22644</a>	
@value	0..1	MAY		<a href="#">1129-23095</a>	
@unit	0..1	MAY		<a href="#">1129-23096</a>	
@inclusive	0..1	MAY	BL	<a href="#">1129-22645</a>	
high	0..1	MAY		<a href="#">1129-22646</a>	

@value	0..1	MAY		<a href="#">1129-23097</a>	
@unit	0..1	MAY		<a href="#">1129-23098</a>	
@inclusive	0..1	MAY		<a href="#">1129-22647</a>	
center	0..1	MAY		<a href="#">1129-22648</a>	
@value	0..1	MAY		<a href="#">1129-23099</a>	
@unit	0..1	MAY		<a href="#">1129-23100</a>	
@nullFlavor	0..1	MAY		<a href="#">1129-23366</a>	
interpretationCode	1..1	SHALL		<a href="#">1129-23101</a>	2.16.840.1.113883.13.13 (NHSNDrugSusceptibilityFinding Code)

1. Conforms to Result Observation template (identifier: urn: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:1129-22632).
3. **SHALL** contain exactly one [1..1] @moodCode="EVN" (CodeSystem: ActMood 2.16.840.1.113883.5.1001) (CONF:1129-22633).
4. **SHALL** contain exactly one [1..1] @negationInd (CONF:1129-22699).
5. **SHALL** contain exactly one [1..1] templateId (CONF:1129-30551) such that it
  - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.4.2" (CONF:1129-30552).
6. **SHALL** contain exactly one [1..1] templateId (CONF:1129-22634) such that it
  - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.6.186" (CONF:1129-22635).
  - b. **SHALL** contain exactly one [1..1] @extension="2014-12-01" (CONF:1129-30553).
7. **SHALL** contain exactly one [1..1] id (CONF:1129-22636).
  - a. This id **SHALL** contain exactly one [1..1] @nullFlavor="NA" (CONF:1129-22637).
8. **SHALL** contain exactly one [1..1] code, which **SHOULD** be selected from ValueSet [NHSNArDrugSusctestsCode](#) 2.16.840.1.114222.4.11.7230 **STATIC** 2014-09-01 (CONF:1129-22638).
9. **SHALL** contain exactly one [1..1] statusCode (CONF:1129-22639).
  - a. This statusCode **SHALL** contain exactly one [1..1] @code="completed" (CONF:1129-22640).
10. **SHALL** contain exactly one [1..1] effectiveTime (CONF:1129-22641).
  - a. This effectiveTime **SHALL** contain exactly one [1..1] @nullFlavor="NA" (CONF:1129-22642).
11. **SHALL** contain exactly one [1..1] value with @xsi:type="IVL\_PQ" (CONF:1129-22643).
  - a. This value **MAY** contain zero or one [0..1] low (CONF:1129-22644).

- i. The low, if present, **MAY** contain zero or one [0..1] **@value** (CONF:1129-23095).
    - ii. The low, if present, **MAY** contain zero or one [0..1] **@unit** (CONF:1129-23096).
    - iii. The low, if present, **MAY** contain zero or one [0..1] **@inclusive** (CONF:1129-22645).
  - b. This value **MAY** contain zero or one [0..1] **high** (CONF:1129-22646).
    - i. The high, if present, **MAY** contain zero or one [0..1] **@value** (CONF:1129-23097).
    - ii. The high, if present, **MAY** contain zero or one [0..1] **@unit** (CONF:1129-23098).
    - iii. The high, if present, **MAY** contain zero or one [0..1] **@inclusive** (CONF:1129-22647).
  - c. This value **MAY** contain zero or one [0..1] **center** (CONF:1129-22648).
    - i. The center, if present, **MAY** contain zero or one [0..1] **@value** (CONF:1129-23099).
    - ii. The center, if present, **MAY** contain zero or one [0..1] **@unit** (CONF:1129-23100).
  - d. This value **MAY** contain zero or one [0..1] **@nullFlavor** (CONF:1129-23366).
- 12. **SHALL** contain exactly one [1..1] **interpretationCode**, which **SHOULD** be selected from ValueSet [NHSNDrugSusceptibilityFindingCode](#) 2.16.840.1.113883.13.13 (CONF:1129-23101).

**Table 109: NHSNArDrugSuscTestsCode**

Value Set: NHSNArDrugSuscTestsCode 2.16.840.1.114222.4.11.7230			
Value Set Source: <a href="https://www.phinvads.com">https://www.phinvads.com</a>			
Code	Code System	Code System OID	Print Name
6975-7	LOINC	2.16.840.1.113883.6.1	Amikacin Islt E-test
13-3	LOINC	2.16.840.1.113883.6.1	Amikacin Islt KB
12-5	LOINC	2.16.840.1.113883.6.1	Amikacin Islt MIC
6976-5	LOINC	2.16.840.1.113883.6.1	Amoxicillin Islt E-test
17-4	LOINC	2.16.840.1.113883.6.1	Amoxicillin Islt KB
16-6	LOINC	2.16.840.1.113883.6.1	Amoxicillin Islt MIC
6977-3	LOINC	2.16.840.1.113883.6.1	Amoxicillin+Clav Islt E-test
21-6	LOINC	2.16.840.1.113883.6.1	Amoxicillin+Clav Islt KB
20-8	LOINC	2.16.840.1.113883.6.1	Amoxicillin+Clav Islt MIC
6979-9	LOINC	2.16.840.1.113883.6.1	Ampicillin Islt E-test
...			

**Figure 31: Antimicrobial Susceptibility Result Observation (V2)**

```
<component>
  <observation classCode="OBS" moodCode="EVN" negationInd="false">
    <!-- Antimicrobial Susceptibility Result Observation -->
    <templateId root="2.16.840.1.113883.10.20.5.6.186"
      extension="2014-12-01"/>
    <!-- Consolidated CDA Result Observation template -->
    <templateId root="2.16.840.1.113883.10.20.22.4.2"/>
    <id nullFlavor="NA"/>
    <code code="7003-7"
      displayName="Clarithromycin Islt E-test"
      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>
```

### 3.7 Antimicrobial Susceptibility Result Organizer (V2)

[organizer: identifier urn:hl7ii:2.16.840.1.113883.10.20.5.6.200:2014-12-01  
(closed)]

**Table 110: Antimicrobial Susceptibility Result Organizer (V2) Contexts**

Contained By:	Contains:
<a href="#">Antimicrobial Susceptibility Tests Organizer (V2)</a> (required)	<a href="#">Antimicrobial Susceptibility Result Observation (V2)</a>

This entry groups a battery of antimicrobial susceptibility tests.



**Table 111: Antimicrobial Susceptibility Result Organizer (V2) Constraints Overview**

XPath	Card.	Verb	Data Type	CONF#	Value
organizer (identifier: urn:hl7ii:2.16.840.1.113883.10.20.5.6.200:2014-12-01)					
@classCode	1..1	SHALL		<a href="#">1129-27103</a>	2.16.840.1.113883.5.6 (HL7ActClass) = BATTERY
@moodCode	1..1	SHALL		<a href="#">1129-27104</a>	2.16.840.1.113883.5.1001 (ActMood) = EVN
templateId	1..1	SHALL		<a href="#">1129-30554</a>	
@root	1..1	SHALL		<a href="#">1129-28208</a>	2.16.840.1.113883.10.20.22.4.1
templateId	1..1	SHALL		<a href="#">1129-27105</a>	
@root	1..1	SHALL		<a href="#">1129-27106</a>	2.16.840.1.113883.10.20.5.6.200
@extension	1..1	SHALL		<a href="#">1129-30555</a>	2014-12-01
id	1..1	SHALL		<a href="#">1129-27107</a>	
@nullFlavor	1..1	SHALL		<a href="#">1129-30591</a>	2.16.840.1.113883.5.1008 (HL7NullFlavor) = NA
code	1..1	SHALL		<a href="#">1129-27108</a>	
@code	1..1	SHALL		<a href="#">1129-28101</a>	18725-2
@codeSystem	1..1	SHALL		<a href="#">1129-28102</a>	2.16.840.1.113883.6.1 (LOINC) = 2.16.840.1.113883.6.1
statusCode	1..1	SHALL		<a href="#">1129-27109</a>	
@code	1..1	SHALL		<a href="#">1129-27110</a>	2.16.840.1.113883.5.14 (ActStatus) = completed
component	1..*	SHALL		<a href="#">1129-27111</a>	
observation	1..1	SHALL		<a href="#">1129-27112</a>	<a href="#">Antimicrobial Susceptibility Result Observation (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.5.6.186:2014-12-01)</a>

1. Conforms to Result Organizer template (identifier: urn: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:1129-27103).
3. **SHALL** contain exactly one [1..1] @moodCode="EVN" (CodeSystem: ActMood 2.16.840.1.113883.5.1001) (CONF:1129-27104).

4. **SHALL** contain exactly one [1..1] **templateId** (CONF:1129-30554) such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.22.4.1" (CONF:1129-28208).
5. **SHALL** contain exactly one [1..1] **templateId** (CONF:1129-27105) such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.5.6.200" (CONF:1129-27106).
  - b. **SHALL** contain exactly one [1..1] **@extension**="2014-12-01" (CONF:1129-30555).
6. **SHALL** contain exactly one [1..1] **id** (CONF:1129-27107).
  - a. This **id** **SHALL** contain exactly one [1..1] **@nullFlavor**="NA" (CodeSystem: HL7NullFlavor 2.16.840.1.113883.5.1008) (CONF:1129-30591).
7. **SHALL** contain exactly one [1..1] **code** (CONF:1129-27108).
  - a. This **code** **SHALL** contain exactly one [1..1] **@code**="18725-2" Microbiology Studies (CONF:1129-28101).
  - b. 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:1129-28102).
8. **SHALL** contain exactly one [1..1] **statusCode** (CONF:1129-27109).
  - a. This **statusCode** **SHALL** contain exactly one [1..1] **@code**="completed" (CodeSystem: ActStatus 2.16.840.1.113883.5.14) (CONF:1129-27110).
9. **SHALL** contain at least one [1..\*] **component** (CONF:1129-27111).
  - a. Such components **SHALL** contain exactly one [1..1] [Antimicrobial Susceptibility Result Observation \(V2\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.5.6.186:2014-12-01) (CONF:1129-27112).

**Figure 32: Antimicrobial Susceptibility Result Organizer (V2) 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"
    extension="2014-12-01" />
  <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" negationInd="false">
      <!-- Antimicrobial Susceptibility Result Observation (V2) -->
      <templateId root="2.16.840.1.113883.10.20.5.6.186"
        extension="2014-12-01"/>
      ...
    </observation>
  </component>
</organizer>

```

### 3.8 Antimicrobial Susceptibility Tests Organizer (V2)

[organizer: identifier urn:hl7ii:2.16.840.1.113883.10.20.5.6.177:2014-12-01 (closed) ]

**Table 112: Antimicrobial Susceptibility Tests Organizer (V2) Contexts**

Contained By:	Contains:
<a href="#">Isolate Susceptibility Tests Organizer (V2)</a> (required)	<a href="#">Antimicrobial Susceptibility Final Interpretation Result</a> <a href="#">Antimicrobial Susceptibility Result Organizer (V2)</a>

This clinical statement identifies a set of antimicrobial susceptibility tests performed on a pathogen along with the final antimicrobial susceptibility result generated by those tests with regard to that pathogen-agent combination.

**Table 113: Antimicrobial Susceptibility Tests Organizer (V2) Constraints Overview**

XPath	Card.	Verb	Data Type	CONF#	Value
organizer (identifier: urn:hl7ii:2.16.840.1.113883.10.20.5.6.177:2014-12-01)					
@classCode	1..1	SHALL		<a href="#">1129-21091</a>	2.16.840.1.113883.5.6 (HL7ActClass) = CLUSTER
@moodCode	1..1	SHALL		<a href="#">1129-21092</a>	2.16.840.1.113883.5.1001 (ActMood) = EVN
templateId	1..1	SHALL		<a href="#">1129-30498</a>	
@root	1..1	SHALL		<a href="#">1129-30499</a>	2.16.840.1.113883.10.20.22.4.1
templateId	1..1	SHALL		<a href="#">1129-21093</a>	
@root	1..1	SHALL		<a href="#">1129-21094</a>	2.16.840.1.113883.10.20.5.6.177
@extension	1..1	SHALL		<a href="#">1129-30500</a>	2014-12-01
id	1..*	SHALL		<a href="#">1129-21097</a>	
@nullFlavor	1..1	SHALL		<a href="#">1129-22723</a>	NA
code	1..1	SHALL		<a href="#">1129-21098</a>	
@code	1..1	SHALL		<a href="#">1129-21099</a>	2.16.840.1.113883.6.1 (LOINC) = 18725-2
statusCode	1..1	SHALL		<a href="#">1129-21100</a>	
@code	1..1	SHALL		<a href="#">1129-21101</a>	2.16.840.1.113883.5.14 (ActStatus) = completed
component	1..1	SHALL		<a href="#">1129-21104</a>	
organizer	1..1	SHALL		<a href="#">1129-27178</a>	<a href="#">Antimicrobial Susceptibility Result Organizer (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.5.6.200:2014-12-01)</a>
component	1..1	SHALL		<a href="#">1129-21106</a>	
observation	1..1	SHALL		<a href="#">1129-22712</a>	<a href="#">Antimicrobial Susceptibility Final Interpretation Result (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.175)</a>

1. Conforms to Result Organizer template (identifier: urn: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:1129-21091).

3. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" (CodeSystem: ActMood 2.16.840.1.113883.5.1001) (CONF:1129-21092).
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:1129-30498) such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.22.4.1" (CONF:1129-30499).
5. **SHALL** contain exactly one [1..1] **templateId** (CONF:1129-21093) such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.5.6.177" (CONF:1129-21094).
  - b. **SHALL** contain exactly one [1..1] **@extension**="2014-12-01" (CONF:1129-30500).
6. **SHALL** contain at least one [1..\*] **id** (CONF:1129-21097).
  - a. Such ids **SHALL** contain exactly one [1..1] **@nullFlavor**="NA" (CONF:1129-22723).
7. **SHALL** contain exactly one [1..1] **code** (CONF:1129-21098).
  - a. This code **SHALL** contain exactly one [1..1] **@code**="18725-2" Microbiology studies (CodeSystem: LOINC 2.16.840.1.113883.6.1) (CONF:1129-21099).
8. **SHALL** contain exactly one [1..1] **statusCode** (CONF:1129-21100).
  - a. This statusCode **SHALL** contain exactly one [1..1] **@code**="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14) (CONF:1129-21101).
9. **SHALL** contain exactly one [1..1] **component** (CONF:1129-21104) such that it
  - a. **SHALL** contain exactly one [1..1] [Antimicrobial Susceptibility Result Organizer \(V2\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.5.6.200:2014-12-01) (CONF:1129-27178).
10. **SHALL** contain exactly one [1..1] **component** (CONF:1129-21106) such that it
  - a. **SHALL** contain exactly one [1..1] [Antimicrobial Susceptibility Final Interpretation Result](#) (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.175) (CONF:1129-22712).

**Figure 33: Antimicrobial Susceptibility Tests Organizer (V2) Example**

```
<organizer classCode="CLUSTER" moodCode="EVN">
  <!-- Conforms to C-CDA Result Organizer template-->
  <templateId root="2.16.840.1.113883.10.20.22.4.1" />
  <!-- Antimicrobial Susceptibility Tests Organizer (V2) -->
  <templateId root="2.16.840.1.113883.10.20.5.6.177"
    extension="2014-12-01" />
  <id nullFlavor="NA" />
  <code code="18725-2"
    codeSystem="2.16.840.1.113883.6.1"
    codeSystemName="LOINC"
    displayName="Microbiology Studies" />
  <statusCode code="completed" />
  <component>
    <organizer classCode="BATTERY" moodCode="EVN">
      <!-- Antimicrobial Susceptibility Result Organizer (V2) -->
      <templateId root="2.16.840.1.113883.10.20.5.6.200"
        extension="2014-12-01"/>
      ...
    </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>
```

### 3.9 ARO Staph Aureus Specific Tests Organizer

[organizer: identifier urn:oid:2.16.840.1.113883.10.20.5.6.190 (closed)]

**Table 114: ARO Staph Aureus Specific Tests Organizer Contexts**

Contained By:	Contains:
<a href="#">Isolate Susceptibility Tests Organizer (V2)</a> (optional)	<a href="#">ARO Staph Aureus Specific Tests Result Observation</a>

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

**Table 115: ARO Staph Aureus Specific Tests Organizer Constraints Overview**

XPath	Card.	Verb	Data Type	CONF#	Value
organizer (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.190)					
@classCode	1..1	SHALL		<a href="#">86-22700</a>	2.16.840.1.113883.5.6 (HL7ActClass) = CLUSTER
@moodCode	1..1	SHALL		<a href="#">86-22701</a>	2.16.840.1.113883.5.1001 (ActMood) = EVN
templateId	1..1	SHALL		<a href="#">86-28209</a>	
@root	1..1	SHALL		<a href="#">86-28210</a>	2.16.840.1.113883.10.20.22.4.1
templateId	1..1	SHALL		<a href="#">86-22702</a>	
@root	1..1	SHALL		<a href="#">86-22703</a>	2.16.840.1.113883.10.20.5.6.190
id	1..1	SHALL		<a href="#">86-22704</a>	
@nullFlavor	1..1	SHALL		<a href="#">86-23365</a>	NA
code	1..1	SHALL		<a href="#">86-22705</a>	
@code	1..1	SHALL		<a href="#">86-22706</a>	2.16.840.1.113883.6.1 (LOINC) = 18725-2
statusCode	1..1	SHALL		<a href="#">86-22707</a>	
@code	1..1	SHALL		<a href="#">86-22708</a>	2.16.840.1.113883.5.14 (ActStatus) = completed
component	1..*	SHALL		<a href="#">86-22709</a>	
observation	1..1	SHALL		<a href="#">86-22710</a>	<a href="#">ARO Staph Aureus Specific Tests Result Observation (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.189)</a>

1. Conforms to Result Organizer template (identifier: urn: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:86-22700).
3. **SHALL** contain exactly one [1..1] @moodCode="EVN" (CodeSystem: ActMood 2.16.840.1.113883.5.1001) (CONF:86-22701).
4. **SHALL** contain exactly one [1..1] templateId (CONF:86-28209) such that it
  - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.4.1" (CONF:86-28210).
5. **SHALL** contain exactly one [1..1] templateId (CONF:86-22702) such that it

- a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.5.6.190" (CONF:86-22703).
6. **SHALL** contain exactly one [1..1] **id** (CONF:86-22704).
  - a. This **id** **SHALL** contain exactly one [1..1] **@nullFlavor**="NA" (CONF:86-23365).
7. **SHALL** contain exactly one [1..1] **code** (CONF:86-22705).
  - a. This **code** **SHALL** contain exactly one [1..1] **@code**="18725-2" Microbiology studies (CodeSystem: LOINC 2.16.840.1.113883.6.1) (CONF:86-22706).
8. **SHALL** contain exactly one [1..1] **statusCode** (CONF:86-22707).
  - a. This **statusCode** **SHALL** contain exactly one [1..1] **@code**="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14) (CONF:86-22708).
9. **SHALL** contain at least one [1..\*] **component** (CONF:86-22709) such that it
  - a. **SHALL** contain exactly one [1..1] [ARO Staph Aureus Specific Tests Result Observation](#) (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.189) (CONF:86-22710).

**Figure 34: 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>
```

### 3.10 ARO Staph Aureus Specific Tests Result Observation

[observation: identifier urn:oid:2.16.840.1.113883.10.20.5.6.189 (closed)]

**Table 116: ARO Staph Aureus Specific Tests Result Observation Contexts**

Contained By:	Contains:
<a href="#">ARO Staph Aureus Specific Tests Organizer</a> (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 117: ARO Staph Aureus Specific Tests Result Observation Constraints Overview**

XPath	Card.	Verb	Data Type	CONF#	Value
observation (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.189)					
@classCode	1..1	SHALL		<a href="#">86-22687</a>	2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		<a href="#">86-22688</a>	2.16.840.1.113883.5.1001 (ActMood) = EVN
templateId	1..1	SHALL		<a href="#">86-28211</a>	
@root	1..1	SHALL		<a href="#">86-28212</a>	2.16.840.1.113883.10.20.22.4.2
templateId	1..1	SHALL		<a href="#">86-22689</a>	
@root	1..1	SHALL		<a href="#">86-22690</a>	2.16.840.1.113883.10.20.5.6.189
id	1..1	SHALL		<a href="#">86-22691</a>	
@nullFlavor	1..1	SHALL		<a href="#">86-22692</a>	NA
code	1..1	SHALL		<a href="#">86-22693</a>	2.16.840.1.114222.4.11.7160 (NHSNStaphAureusSpecificTest)
statusCode	1..1	SHALL		<a href="#">86-22694</a>	
@code	1..1	SHALL		<a href="#">86-22695</a>	completed
effectiveTime	1..1	SHALL		<a href="#">86-22696</a>	
@nullFlavor	1..1	SHALL		<a href="#">86-22697</a>	NA
value	1..1	SHALL		<a href="#">86-22698</a>	

1. Conforms to Result Observation template (identifier: urn: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:86-22687).
3. **SHALL** contain exactly one [1..1] @moodCode="EVN" (CodeSystem: ActMood 2.16.840.1.113883.5.1001) (CONF:86-22688).
4. **SHALL** contain exactly one [1..1] templateId (CONF:86-28211) such that it
  - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.4.2" (CONF:86-28212).

5. **SHALL** contain exactly one [1..1] **templateId** (CONF:86-22689) such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.5.6.189" (CONF:86-22690).
6. **SHALL** contain exactly one [1..1] **id** (CONF:86-22691).
  - a. This id **SHALL** contain exactly one [1..1] **@nullFlavor**="NA" (CONF:86-22692).
7. **SHALL** contain exactly one [1..1] **code**, which **SHALL** be selected from ValueSet [NHSNStaphAureusSpecificTest](#) 2.16.840.1.114222.4.11.7160 **STATIC** (CONF:86-22693).
8. **SHALL** contain exactly one [1..1] **statusCode** (CONF:86-22694).
  - a. This statusCode **SHALL** contain exactly one [1..1] **@code**="completed" (CONF:86-22695).
9. **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:86-22696).
  - a. This effectiveTime **SHALL** contain exactly one [1..1] **@nullFlavor**="NA" (CONF:86-22697).
10. **SHALL** contain exactly one [1..1] **value** (CONF:86-22698).

**Table 118: 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 35: 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>
```

### 3.11 ASA Class Observation

[observation: identifier urn:oid:2.16.840.1.113883.10.20.5.6.113 (closed)]

**Table 119: ASA Class Observation Contexts**

Contained By:	Contains:
<a href="#">Infection Risk Factors Section in a Procedure Report</a> (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 120: ASA Class Observation Constraints Overview**

XPath	Card.	Verb	Data Type	CONF#	Value
observation (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.113)					
@classCode	1..1	SHALL		<a href="#">86-19583</a>	2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		<a href="#">86-19584</a>	2.16.840.1.113883.5.1001 (ActMood) = EVN
@negationInd	1..1	SHALL		<a href="#">86-19585</a>	false
templateId	1..1	SHALL		<a href="#">86-28213</a>	
@root	1..1	SHALL		<a href="#">86-28214</a>	2.16.840.1.113883.10.20.22.4.4
templateId	1..1	SHALL		<a href="#">86-19594</a>	
@root	1..1	SHALL		<a href="#">86-19595</a>	2.16.840.1.113883.10.20.5.6.113
id	1..1	SHALL		<a href="#">86-19596</a>	
@nullFlavor	1..1	SHALL		<a href="#">86-22724</a>	NA
code	1..1	SHALL		<a href="#">86-19586</a>	
@code	1..1	SHALL		<a href="#">86-19587</a>	2.16.840.1.113883.5.4 (ActCode) = ASSERTION
statusCode	1..1	SHALL		<a href="#">86-19588</a>	
@code	1..1	SHALL		<a href="#">86-19589</a>	2.16.840.1.113883.5.14 (ActStatus) = completed
value	1..1	SHALL	CD	<a href="#">86-19590</a>	2.16.840.1.113883.13.10 (NHSNASAClassCode)

1. Conforms to Problem Observation template (identifier: urn: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:86-19583).
3. **SHALL** contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:86-19584).
4. **SHALL** contain exactly one [1..1] @negationInd="false" (CONF:86-19585).
5. **SHALL** contain exactly one [1..1] templateId (CONF:86-28213) such that it
  - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.4.4" (CONF:86-28214).
6. **SHALL** contain exactly one [1..1] templateId (CONF:86-19594) such that it

- a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.6.113" (CONF:86-19595).
7. **SHALL** contain exactly one [1..1] **id** (CONF:86-19596).
  - a. This **id** **SHALL** contain exactly one [1..1] @nullFlavor="NA" (CONF:86-22724).
8. **SHALL** contain exactly one [1..1] **code** (CONF:86-19586).
  - a. This **code** **SHALL** contain exactly one [1..1] @code="ASSERTION" Assertion (CodeSystem: ActCode 2.16.840.1.113883.5.4 **STATIC**) (CONF:86-19587).
9. **SHALL** contain exactly one [1..1] **statusCode** (CONF:86-19588).
  - a. This **statusCode** **SHALL** contain exactly one [1..1] @code="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14 **STATIC**) (CONF:86-19589).
10. **SHALL** contain exactly one [1..1] **value** with @xsi:type="CD", where the **code** **SHALL** be selected from ValueSet [NHSNASAClassCode](#) 2.16.840.1.113883.13.10 **STATIC** 2008-01-30 (CONF:86-19590).

**Table 121: 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 36: 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>

```

### 3.12 Bacterial Isolate Tested for Carbapenemase Observation

[observation: identifier urn:hl7ii:2.16.840.1.113883.10.20.5.6.222:2014-12-01  
(closed)]

**Table 122: Bacterial Isolate Tested for Carbapenemase Observation Contexts**

Contained By:	Contains:
<a href="#">Pathogen Identified Observation (LIO) (V2)</a> (optional)	<a href="#">Carbapenemase Test Organizer</a> <a href="#">Positive Test for Carbapenemase Observation</a>

This template represents whether or not the bacterial isolate was tested for carbapenemase.

When the bacterial isolate was tested, set the value of @negationInd to false. When the bacterial isolate was not tested, set the value of @negationInd to true. When it is unknown whether or not the bacterial isolate was tested, set the value of @nullFlavor to "UNK".

**Table 123: Bacterial Isolate Tested for Carbapenemase Observation Constraints Overview**

XPath	Card.	Verb	Data Type	CONF#	Value
observation (identifier: urn:hl7ii:2.16.840.1.113883.10.20.5.6.222:2014-12-01)					
@nullFlavor	0..1	MAY		<a href="#">1129-30360</a>	UNK
@classCode	1..1	SHALL		<a href="#">1129-30353</a>	2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		<a href="#">1129-30354</a>	2.16.840.1.113883.5.1001 (ActMood) = EVN
@negationInd	0..1	SHOULD		<a href="#">1129-30355</a>	
templateId	1..1	SHALL		<a href="#">1129-30501</a>	
@root	1..1	SHALL		<a href="#">1129-30502</a>	2.16.840.1.113883.10.20.5.6.222
@extension	1..1	SHALL		<a href="#">1129-30503</a>	2014-12-01
code	1..1	SHALL		<a href="#">1129-30336</a>	
@code	1..1	SHALL		<a href="#">1129-30345</a>	2.16.840.1.113883.5.4 (ActCode) = ASSERTION
statusCode	1..1	SHALL		<a href="#">1129-30337</a>	
@code	1..1	SHALL		<a href="#">1129-30346</a>	2.16.840.1.113883.5.14 (ActStatus) = completed
value	1..1	SHALL	CD	<a href="#">1129-30338</a>	
@code	1..1	SHALL		<a href="#">1129-30347</a>	2037-0
@codeSystem	1..1	SHALL		<a href="#">1129-30437</a>	2.16.840.1.113883.6.277 (cdcNHSN) = 2.16.840.1.113883.6.277
entryRelationship	1..1	SHOULD		<a href="#">1129-30335</a>	
@typeCode	1..1	SHALL		<a href="#">1129-30356</a>	COMP
organizer	1..1	SHALL		<a href="#">1129-30414</a>	<a href="#">Carbapenemase Test Organizer (identifier: urn:hl7ii:2.16.840.1.113883.10.20.5.6.223:2014-12-01)</a>
entryRelationship	1..1	SHOULD		<a href="#">1129-30438</a>	
@typeCode	1..1	SHALL		<a href="#">1129-30439</a>	COMP
observation	1..1	SHALL		<a href="#">1129-30440</a>	<a href="#">Positive Test for Carbapenemase Observation (identifier:</a>

					<a href="urn:hl7ii:2.16.840.1.113883.10.20.5.6.225:2014-12-01">urn:hl7ii:2.16.840.1.113883.10.20.5.6.225:2014-12-01</a>
--	--	--	--	--	---

1. **MAY** contain zero or one [0..1] **@nullFlavor="UNK"** (CONF:1129-30360).
2. **SHALL** contain exactly one [1..1] **@classCode="OBS"** Observation (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 **STATIC**) (CONF:1129-30353).
3. **SHALL** contain exactly one [1..1] **@moodCode="EVN"** Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:1129-30354).
4. **SHOULD** contain zero or one [0..1] **@negationInd** (CONF:1129-30355).
5. **SHALL** contain exactly one [1..1] **templateId** (CONF:1129-30501) such that it
  - a. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.5.6.222"** (CONF:1129-30502).
  - b. **SHALL** contain exactly one [1..1] **@extension="2014-12-01"** (CONF:1129-30503).
6. **SHALL** contain exactly one [1..1] **code** (CONF:1129-30336).
  - a. This code **SHALL** contain exactly one [1..1] **@code="ASSERTION"** Assertion (CodeSystem: ActCode 2.16.840.1.113883.5.4 **STATIC**) (CONF:1129-30345).
7. **SHALL** contain exactly one [1..1] **statusCode** (CONF:1129-30337).
  - a. This statusCode **SHALL** contain exactly one [1..1] **@code="completed"** Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14 **STATIC**) (CONF:1129-30346).
8. **SHALL** contain exactly one [1..1] **value** with **@xsi:type="CD"** (CONF:1129-30338).
  - a. This value **SHALL** contain exactly one [1..1] **@code="2037-0"** Bacterial isolate tested for carbapenemase (CONF:1129-30347).
  - b. 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:1129-30437).

If the value of **@negationInd** is "false" this observation is required to contain the following entryRelationship

9. **SHOULD** contain exactly one [1..1] **entryRelationship** (CONF:1129-30335) such that it
  - a. **SHALL** contain exactly one [1..1] **@typeCode="COMP"** (CONF:1129-30356).
  - b. **SHALL** contain exactly one [1..1] [Carbapenemase Test Organizer](urn:hl7ii:2.16.840.1.113883.10.20.5.6.223:2014-12-01) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.5.6.223:2014-12-01) (CONF:1129-30414).

If the value of **@negationInd** is "false" this observation is required to contain the following entryRelationship

10. **SHOULD** contain exactly one [1..1] **entryRelationship** (CONF:1129-30438) such that it
  - a. **SHALL** contain exactly one [1..1] **@typeCode="COMP"** (CONF:1129-30439).
  - b. **SHALL** contain exactly one [1..1] [Positive Test for Carbapenemase Observation](urn:hl7ii:2.16.840.1.113883.10.20.5.6.225:2014-12-01) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.5.6.225:2014-12-01) (CONF:1129-30440).



**Figure 37: Bacterial Isolate Tested for Carbapenemase Observation Example**

```
<observation classCode="OBS" moodCode="EVN" negationInd="false">
  <!-- Bacterial Isolate Tested for Carbapenemase Observation templateId -->
  <templateId root="2.16.840.1.113883.10.20.5.6.222"
    extension="2014-12-01"/>
  <code code="ASSERTION"
    codeSystem="2.16.840.1.113883.5.4"
    codeSystemName="ActCode"/>
  <statusCode code="completed"/>
  <value xsi:type="CD"
    code="2037-0"
    displayName="Bacterial isolate tested for carbapenemase"
    codeSystem="2.16.840.1.113883.6.277"
    codeSystemName="cdcNHSN"/>
  <!-- If the value of negationInd="false" for the Bacterial
    Isolate Tested for Carbapenemase template (meaning it
    was tested) then the following entryRelationship is
    required -->
  <entryRelationship typeCode="COMP">
    <!-- Carbapenemase Test Organizer -->
    <organizer classCode="CLUSTER" moodCode="EVN">
      <!-- C-CDA Result Organizer templateId -->
      <templateId root="2.16.840.1.113883.10.20.22.4.1"/>
      <!-- Carbapenemase Test Organizer templateId-->
      <templateId root="2.16.840.1.113883.10.20.5.6.223"
        extension="2014-12-01"/>

      ...
    </organizer>
    </entryRelationship>
    <!-- If any tests were performed (other than when the type of test
      was unknown), this entryRelationship is required -->
    <entryRelationship typeCode="COMP">
      <!-- Positive Test for Carbapenemase Observation -->
      <observation classCode="OBS" moodCode="EVN" negationInd="false">
        <!-- C-CDA Result Observation templateId -->
        <templateId root="2.16.840.1.113883.10.20.22.4.2" />
        <!-- Positive Test for Carbapenemase Observation templateId-->
        <templateId root="2.16.840.1.113883.10.20.5.6.225"
          extension="2014-12-01"/>

        ...
      </observation>
    </entryRelationship>
  </observation>
```

### 3.13 Blood Collection Location

[observation: identifier urn:hl7ii:2.16.840.1.113883.10.20.5.6.219:2014-12-01 (closed)]

**Table 124: Blood Collection Location Contexts**

Contained By:	Contains:
<a href="#">Positive Blood Culture Observation (V2)</a> (optional)	

If there is a positive blood culture, this template records the location where the blood was collected.

If the blood collection location is other than one specified in the value set NHSNBloodCollectionLocation, use value/@nullFlavor="OTH".

**Table 125: Blood Collection Location Constraints Overview**

XPath	Card.	Verb	Data Type	CONF#	Value
observation (identifier: urn:hl7ii:2.16.840.1.113883.10.20.5.6.219:2014-12-01)					
@classCode	1..1	SHALL		<a href="#">1129-30299</a>	2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		<a href="#">1129-30300</a>	2.16.840.1.113883.5.1001 (ActMood) = EVN
templateId	1..1	SHALL		<a href="#">1129-30504</a>	
@root	1..1	SHALL		<a href="#">1129-30505</a>	2.16.840.1.113883.10.20.5.6.219
@extension	1..1	SHALL		<a href="#">1129-30506</a>	2014-12-01
code	1..1	SHALL		<a href="#">1129-30296</a>	
@code	1..1	SHALL		<a href="#">1129-30304</a>	2331-7
@codeSystem	1..1	SHALL		<a href="#">1129-30305</a>	2.16.840.1.113883.6.277 (cdcNHSN) = 2.16.840.1.113883.6.277
statusCode	1..1	SHALL		<a href="#">1129-30297</a>	
@code	1..1	SHALL		<a href="#">1129-30306</a>	2.16.840.1.113883.5.14 (ActStatus) = completed
value	1..1	SHALL	CD	<a href="#">1129-30315</a>	2.16.840.1.114222.4.11.7237 (NHSNBloodCollectionLocation)
@nullFlavor	0..1	MAY		<a href="#">1129-30316</a>	OTH

1. **SHALL** contain exactly one [1..1] @classCode="OBS" Observation (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6) (CONF:1129-30299).

2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001) (CONF:1129-30300).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:1129-30504) such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.5.6.219" (CONF:1129-30505).
  - b. **SHALL** contain exactly one [1..1] **@extension**="2014-12-01" (CONF:1129-30506).
4. **SHALL** contain exactly one [1..1] **code** (CONF:1129-30296).
  - a. This code **SHALL** contain exactly one [1..1] **@code**="2331-7" Where was the positive blood culture collected (CONF:1129-30304).
  - b. 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:1129-30305).
5. **SHALL** contain exactly one [1..1] **statusCode** (CONF:1129-30297).
  - a. This statusCode **SHALL** contain exactly one [1..1] **@code**="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14) (CONF:1129-30306).
6. **SHALL** contain exactly one [1..1] **value** with **@xsi:type**="CD", where the code **SHOULD** be selected from ValueSet [NHSNBloodCollectionLocation](#) 2.16.840.1.114222.4.11.7237 **DYNAMIC** (CONF:1129-30315).

If the blood collection location is other than one specified in the value set NHSNBloodCollectionLocation, use nullFlavor="OTH"

- a. This value **MAY** contain zero or one [0..1] **@nullFlavor**="OTH" (CONF:1129-30316).

**Table 126: NHSNBloodCollectionLocation**

Value Set: NHSNBloodCollectionLocation 2.16.840.1.114222.4.11.7237 Location where blood was collected. Value Set Source: <a href="http://www.phinvads.com">http://www.phinvads.com</a>			
Code	Code System	Code System OID	Print Name
2333-3	cdcNHSN	2.16.840.1.113883.6.277	Dialysis Clinic
2332-5	cdcNHSN	2.16.840.1.113883.6.277	Hospital (on the day of or the day following admission) or Emergency Department

**Figure 38: Blood Collection Location Example**

```
<observation classCode="OBS" moodCode="EVN">
  <!-- Blood Collection Location templateId -->
  <templateId root="2.16.840.1.113883.10.20.5.6.219"
    extension="2014-12-01"/>
  <code code="2331-7"
    displayName="Where was the positive blood culture collected"
    codeSystem="2.16.840.1.113883.6.277"
    codeSystemName="cdcNHSN"/>
  <statusCode code="completed"/>
  <value xsi:type="CD" code="2333-3"
    displayName="Dialysis Clinic"
    codeSystem="2.16.840.1.113883.6.277"
    codeSystemName="cdcNHSN" />
</observation>
```

**Figure 39: Blood Collection Location - Other Example**

```
<observation classCode="OBS" moodCode="EVN">
  <!-- Blood Collection Location templateId -->
  <templateId root="2.16.840.1.113883.10.20.5.6.219"
    extension="2014-12-01"/>
  <code code="2331-7"
    displayName="Where was the positive blood culture collected"
    codeSystem="2.16.840.1.113883.6.277"
    codeSystemName="cdcNHSN"/>
  <statusCode code="completed"/>
  <value xsi:type="CD" nullFlavor="OTH" />
</observation>
```

### 3.14 Bloodstream Infection Evidence Type Observation

[observation: identifier urn:oid:2.16.840.1.113883.10.20.5.6.114 (closed)]

**Table 127: Bloodstream Infection Evidence Type Observation Contexts**

Contained By:	Contains:
<a href="#">Infection-Type Observation</a> (optional)	

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

**Table 128: Bloodstream Infection Evidence Type Observation Constraints Overview**

XPath	Card.	Verb	Data Type	CONF#	Value
observation (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.114)					
@classCode	1..1	SHALL		<a href="#">86-19597</a>	2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		<a href="#">86-19598</a>	2.16.840.1.113883.5.1001 (ActMood) = EVN
@negationInd	1..1	SHALL		<a href="#">86-19599</a>	false
templateId	1..1	SHALL		<a href="#">86-28215</a>	
@root	1..1	SHALL		<a href="#">86-28216</a>	2.16.840.1.113883.10.20.22.4.4
templateId	1..1	SHALL		<a href="#">86-19608</a>	
@root	1..1	SHALL		<a href="#">86-19609</a>	2.16.840.1.113883.10.20.5.6.114
id	1..1	SHALL		<a href="#">86-19610</a>	
@nullFlavor	1..1	SHALL		<a href="#">86-22725</a>	NA
code	1..1	SHALL		<a href="#">86-19600</a>	
@code	1..1	SHALL		<a href="#">86-19601</a>	2.16.840.1.113883.5.4 (ActCode) = ASSERTION
statusCode	1..1	SHALL		<a href="#">86-19602</a>	
@code	1..1	SHALL		<a href="#">86-19603</a>	2.16.840.1.113883.5.14 (ActStatus) = completed
value	1..1	SHALL	CD	<a href="#">86-19604</a>	2.16.840.1.113883.13.7 (NHSNBloodStreamInfectionEvidenceTypeCode)

1. Conforms to Problem Observation template (identifier: urn: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:86-19597).
3. **SHALL** contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:86-19598).
4. **SHALL** contain exactly one [1..1] @negationInd="false" (CONF:86-19599).
5. **SHALL** contain exactly one [1..1] templateId (CONF:86-28215) such that it
  - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.4.4" (CONF:86-28216).
6. **SHALL** contain exactly one [1..1] templateId (CONF:86-19608) such that it

- a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.5.6.114" (CONF:86-19609).
7. **SHALL** contain exactly one [1..1] **id** (CONF:86-19610).
  - a. This **id** **SHALL** contain exactly one [1..1] **@nullFlavor**="NA" (CONF:86-22725).
8. **SHALL** contain exactly one [1..1] **code** (CONF:86-19600).
  - a. This **code** **SHALL** contain exactly one [1..1] **@code**="ASSERTION" Assertion (CodeSystem: ActCode 2.16.840.1.113883.5.4 **STATIC**) (CONF:86-19601).
9. **SHALL** contain exactly one [1..1] **statusCode** (CONF:86-19602).
  - a. This **statusCode** **SHALL** contain exactly one [1..1] **@code**="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14 **STATIC**) (CONF:86-19603).
10. **SHALL** contain exactly one [1..1] **value** with **@xsi:type**="CD", where the **code** **SHALL** be selected from ValueSet [NHSNBloodStreamInfectionEvidenceTypeCode](#) 2.16.840.1.113883.13.7 **DYNAMIC** (CONF:86-19604).

**Table 129: 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 40: 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>

```

### 3.15 Buttonhole Cannulation Observation

[observation: identifier urn:oid:2.16.840.1.113883.10.20.5.6.115 (closed)]

**Table 130: Buttonhole Cannulation Observation Contexts**

Contained By:	Contains:
<a href="#">Vascular Access Type Observation</a> (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 131: Buttonhole Cannulation Observation Constraints Overview**

XPath	Card.	Verb	Data Type	CONF#	Value
observation (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.115)					
@classCode	1..1	SHALL		<a href="#">86-21764</a>	2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		<a href="#">86-21765</a>	2.16.840.1.113883.5.1001 (ActMood) = EVN
@negationInd	1..1	SHALL		<a href="#">86-21766</a>	
templateId	1..1	SHALL		<a href="#">86-28217</a>	
@root	1..1	SHALL		<a href="#">86-28218</a>	2.16.840.1.113883.10.20.22.4.13
templateId	1..1	SHALL		<a href="#">86-21775</a>	
@root	1..1	SHALL		<a href="#">86-21776</a>	2.16.840.1.113883.10.20.5.6.115
id	1..1	SHALL		<a href="#">86-21777</a>	
@nullFlavor	1..1	SHALL		<a href="#">86-22726</a>	NA
code	1..1	SHALL		<a href="#">86-21767</a>	
@code	1..1	SHALL		<a href="#">86-21768</a>	2.16.840.1.113883.5.4 (ActCode) = ASSERTION
statusCode	1..1	SHALL		<a href="#">86-21769</a>	
@code	1..1	SHALL		<a href="#">86-21770</a>	2.16.840.1.113883.5.14 (ActStatus) = completed
value	1..1	SHALL	CD	<a href="#">86-21771</a>	
@code	1..1	SHALL		<a href="#">86-21772</a>	2.16.840.1.113883.6.277 (cdcNHSN) = 2308-5

1. Conforms to Procedure Activity Observation template (identifier: urn: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:86-21764).
3. **SHALL** contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:86-21765).

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.

4. **SHALL** contain exactly one [1..1] @negationInd (CONF:86-21766).
5. **SHALL** contain exactly one [1..1] templateId (CONF:86-28217) such that it



- a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.22.4.13" (CONF:86-28218).
6. **SHALL** contain exactly one [1..1] **templateId** (CONF:86-21775) such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.5.6.115" (CONF:86-21776).
7. **SHALL** contain exactly one [1..1] **id** (CONF:86-21777).
  - a. This id **SHALL** contain exactly one [1..1] **@nullFlavor**="NA" (CONF:86-22726).
8. **SHALL** contain exactly one [1..1] **code** (CONF:86-21767).
  - a. This code **SHALL** contain exactly one [1..1] **@code**="ASSERTION" Assertion (CodeSystem: ActCode 2.16.840.1.113883.5.4 **STATIC**) (CONF:86-21768).
9. **SHALL** contain exactly one [1..1] **statusCode** (CONF:86-21769).
  - a. This statusCode **SHALL** contain exactly one [1..1] **@code**="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14 **STATIC**) (CONF:86-21770).
10. **SHALL** contain exactly one [1..1] **value** with **@xsi:type**="CD" (CONF:86-21771).
  - a. This value **SHALL** contain exactly one [1..1] **@code**="2308-5" Buttonhole cannulation (CodeSystem: cdcNHSN 2.16.840.1.113883.6.277 **STATIC**) (CONF:86-21772).

**Figure 41: 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>
```

### 3.16 Carbapenemase Test Observation

[observation: identifier urn:hl7ii:2.16.840.1.113883.10.20.5.6.224:2014-12-01 (closed)]

**Table 132: Carbapenemase Test Observation Contexts**

Contained By:	Contains:
<a href="#">Carbapenemase Test Organizer</a> (required)	

This clinical statement represents a carbapenemase test. The type of test is recorded in the code element.

If the type of test is other than one specified in NHSNCarbaTestMethod, use code/@nullFlavor="OTH" and enter the testing method in code/originalText. If the type of test is unknown, use code/@nullFlavor="UNK".

**Table 133: Carbapenemase Test Observation Constraints Overview**

XPath	Card.	Verb	Data Type	CONF#	Value
observation (identifier: urn:hl7ii:2.16.840.1.113883.10.20.5.6.224:2014-12-01)					
@classCode	1..1	SHALL		<a href="#">1129-30379</a>	2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		<a href="#">1129-30380</a>	2.16.840.1.113883.5.1001 (ActMood) = EVN
templateId	1..1	SHALL		<a href="#">1129-30375</a>	
@root	1..1	SHALL		<a href="#">1129-30381</a>	2.16.840.1.113883.10.20.22.4.2
templateId	1..1	SHALL		<a href="#">1129-30507</a>	
@root	1..1	SHALL		<a href="#">1129-30508</a>	2.16.840.1.113883.10.20.5.6.224
@extension	1..1	SHALL		<a href="#">1129-30509</a>	2014-12-01
id	1..1	SHALL		<a href="#">1129-30376</a>	
@nullFlavor	1..1	SHALL		<a href="#">1129-30382</a>	NA
code	1..1	SHALL		<a href="#">1129-30383</a>	2.16.840.1.114222.4.11.7240 (NHSNCarbaTestMethod)
@nullFlavor	0..1	MAY		<a href="#">1129-30389</a>	2.16.840.1.113883.10.20.5.9.1 (NullValues_UNK_OTH)
originalText	0..1	MAY		<a href="#">1129-30390</a>	
statusCode	1..1	SHALL		<a href="#">1129-30377</a>	
@code	1..1	SHALL		<a href="#">1129-30384</a>	completed
effectiveTime	1..1	SHALL		<a href="#">1129-30378</a>	
@nullFlavor	1..1	SHALL		<a href="#">1129-30385</a>	NA
value	1..1	SHALL	CD	<a href="#">1129-30386</a>	
@nullFlavor	1..1	SHALL		<a href="#">1129-30388</a>	NA

1. Conforms to Result Observation template (identifier: urn: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:1129-30379).
3. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" (CodeSystem: ActMood 2.16.840.1.113883.5.1001) (CONF:1129-30380).
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:1129-30375) such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.22.4.2" (CONF:1129-30381).
5. **SHALL** contain exactly one [1..1] **templateId** (CONF:1129-30507) such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.5.6.224" (CONF:1129-30508).
  - b. **SHALL** contain exactly one [1..1] **@extension**="2014-12-01" (CONF:1129-30509).
6. **SHALL** contain exactly one [1..1] **id** (CONF:1129-30376).
  - a. This id **SHALL** contain exactly one [1..1] **@nullFlavor**="NA" (CONF:1129-30382).

If the type of test is other than one specified in NHSNCarbaTestMethod, use code/**@nullFlavor**="OTH" and enter the testing method in code/originalText. If the type of test is unknown, use code/**@nullFlavor**="UNK".

7. **SHALL** contain exactly one [1..1] **code**, which **SHOULD** be selected from ValueSet [NHSNCarbaTestMethod](#) 2.16.840.1.114222.4.11.7240 **STATIC** 2014-11-10 (CONF:1129-30383).
  - a. This code **MAY** contain zero or one [0..1] **@nullFlavor**, which **SHALL** be selected from ValueSet [NullValues UNK OTH](#) 2.16.840.1.113883.10.20.5.9.1 **STATIC** 2014-11-01 (CONF:1129-30389).
  - b. This code **MAY** contain zero or one [0..1] **originalText** (CONF:1129-30390).
8. **SHALL** contain exactly one [1..1] **statusCode** (CONF:1129-30377).
  - a. This statusCode **SHALL** contain exactly one [1..1] **@code**="completed" (CONF:1129-30384).
9. **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:1129-30378).
  - a. This effectiveTime **SHALL** contain exactly one [1..1] **@nullFlavor**="NA" (CONF:1129-30385).
10. **SHALL** contain exactly one [1..1] **value** with **@xsi:type**="CD" (CONF:1129-30386).
  - a. This value **SHALL** contain exactly one [1..1] **@nullFlavor**="NA" (CONF:1129-30388).

**Table 134: NHSNCarbaTestMethod**

Value Set: NHSNCarbaTestMethod 2.16.840.1.114222.4.11.7240 Tests to check bacterial isolate for carbapenemase. Value Set Source: <a href="http://www.phinvads.com">http://www.phinvads.com</a>			
Code	Code System	Code System OID	Print Name
2039-6	cdcNHSN	2.16.840.1.113883.6.277	(PCR-KPC) Polymerase chain reaction – Klebsiella pneumoniae carbapenemase
2040-4	cdcNHSN	2.16.840.1.113883.6.277	(PCR-NDM) Polymerase chain reaction – New Delhi metallo- $\beta$ -lactamase
2041-2	cdcNHSN	2.16.840.1.113883.6.277	(PCR-IMP) Polymerase chain reaction - Imipenemase
2042-0	cdcNHSN	2.16.840.1.113883.6.277	PCR-VIM) Polymerase chain reaction - Verona Integron-encoded metallo- $\beta$ -lactamase
2043-8	cdcNHSN	2.16.840.1.113883.6.277	(PCR-OXA-48-like) Polymerase chain reaction – Oxacillinase-48 like
2044-6	cdcNHSN	2.16.840.1.113883.6.277	(MHT) Modified Hodge Test
2045-3	cdcNHSN	2.16.840.1.113883.6.277	(CNP) Carba NP
2046-1	cdcNHSN	2.16.840.1.113883.6.277	(MBLe) Metallo- $\beta$ -lactamase E-test
2047-9	cdcNHSN	2.16.840.1.113883.6.277	(MBLs) Metallo- $\beta$ -lactamase screen

**Table 135: NullValues\_UNK\_OTH**

Value Set: NullValues_UNK_OTH 2.16.840.1.113883.10.20.5.9.1 Null values of unknown and other.			
Code	Code System	Code System OID	Print Name
UNK	HL7NullFlavor	2.16.840.1.113883.5.1008	Unknown
OTH	HL7NullFlavor	2.16.840.1.113883.5.1008	Other

**Figure 42: Carbapenemase 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"/>
  <!-- Carbapenemase Test Observation templateId-->
  <templateId root="2.16.840.1.113883.10.20.5.6.224"
    extension="2014-12-01"/>
  <id nullFlavor="NA"/>
  <code code="2039-6"
    displayName="(PCR-KPC) Polymerase chain reaction -
      Klebsiella pneumoniae carbapenemase"
    codeSystem="2.16.840.1.113883.6.277" codeSystemName="cdcNHSN"/>
  <statusCode code="completed"/>
  <effectiveTime nullFlavor="NA"/>
  <value xsi:type="CD" nullFlavor="NA"/>
</observation>
```

**Figure 43: Carbapenemase Test Observation - Other Example**

```
<observation classCode="OBS" moodCode="EVN">
  <!-- C-CDA Result Observation templateId -->
  <templateId root="2.16.840.1.113883.10.20.22.4.2"/>
  <!-- Carbapenemase Test Observation templateId-->
  <templateId root="2.16.840.1.113883.10.20.5.6.224"
    extension="2014-12-01"/>
  <id nullFlavor="NA"/>
  <code nullFlavor="OTH">
    <originalText>Other carbapenemase test not in value set</originalText>
  </code>
  <statusCode code="completed"/>
  <effectiveTime nullFlavor="NA"/>
  <value xsi:type="CD" nullFlavor="NA"/>
</observation>
```

### 3.17 Carbapenemase Test Organizer

[organizer: identifier urn:hl7ii:2.16.840.1.113883.10.20.5.6.223:2014-12-01  
(closed)]

**Table 136: Carbapenemase Test Organizer Contexts**

Contained By:	Contains:
<a href="#">Bacterial Isolate Tested for Carbapenemase Observation</a> (optional)	<a href="#">Carbapenemase Test Observation</a>

This clinical statement represents the set of specific tests conducted on a bacterial isolate to test for carbapenemase.

**Table 137: Carbapenemase Test Organizer Constraints Overview**

XPath	Card.	Verb	Data Type	CONF#	Value
organizer (identifier: urn:hl7ii:2.16.840.1.113883.10.20.5.6.223:2014-12-01)					
@classCode	1..1	SHALL		<a href="#">1129-30367</a>	2.16.840.1.113883.5.6 (HL7ActClass) = CLUSTER
@moodCode	1..1	SHALL		<a href="#">1129-30368</a>	2.16.840.1.113883.5.1001 (ActMood) = EVN
templateId	1..1	SHALL		<a href="#">1129-30362</a>	
@root	1..1	SHALL		<a href="#">1129-30369</a>	2.16.840.1.113883.10.20.22.4.1
templateId	1..1	SHALL		<a href="#">1129-30510</a>	
@root	1..1	SHALL		<a href="#">1129-30511</a>	2.16.840.1.113883.10.20.5.6.223
@extension	1..1	SHALL		<a href="#">1129-30512</a>	2014-12-01
id	1..1	SHALL		<a href="#">1129-30363</a>	
@nullFlavor	1..1	SHALL		<a href="#">1129-30370</a>	NA
code	1..1	SHALL		<a href="#">1129-30364</a>	
@code	1..1	SHALL		<a href="#">1129-30371</a>	18725-2
@codeSystem	1..1	SHALL		<a href="#">1129-30374</a>	2.16.840.1.113883.6.1 (LOINC) = 2.16.840.1.113883.6.1
statusCode	1..1	SHALL		<a href="#">1129-30365</a>	
@code	1..1	SHALL		<a href="#">1129-30372</a>	2.16.840.1.113883.5.14 (ActStatus) = completed
component	1..*	SHALL		<a href="#">1129-30361</a>	
@typeCode	1..1	SHALL		<a href="#">1129-30391</a>	COMP
observation	1..1	SHALL		<a href="#">1129-30366</a>	<a href="#">Carbapenemase Test Observation (identifier: urn:hl7ii:2.16.840.1.113883.10.20.5.6.224:2014-12-01)</a>

1. Conforms to Result Organizer template (identifier: urn: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:1129-30367).

3. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" (CodeSystem: ActMood 2.16.840.1.113883.5.1001) (CONF:1129-30368).
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:1129-30362) such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.22.4.1" (CONF:1129-30369).
5. **SHALL** contain exactly one [1..1] **templateId** (CONF:1129-30510) such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.5.6.223" (CONF:1129-30511).
  - b. **SHALL** contain exactly one [1..1] **@extension**="2014-12-01" (CONF:1129-30512).
6. **SHALL** contain exactly one [1..1] **id** (CONF:1129-30363).
  - a. This id **SHALL** contain exactly one [1..1] **@nullFlavor**="NA" (CONF:1129-30370).
7. **SHALL** contain exactly one [1..1] **code** (CONF:1129-30364).
  - a. This code **SHALL** contain exactly one [1..1] **@code**="18725-2" Microbiology studies (CONF:1129-30371).
  - b. 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:1129-30374).
8. **SHALL** contain exactly one [1..1] **statusCode** (CONF:1129-30365).
  - a. This statusCode **SHALL** contain exactly one [1..1] **@code**="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14) (CONF:1129-30372).
9. **SHALL** contain at least one [1..\*] **component** (CONF:1129-30361) such that it
  - a. **SHALL** contain exactly one [1..1] **@typeCode**="COMP" (CONF:1129-30391).
  - b. **SHALL** contain exactly one [1..1] Carbapenemase Test Observation (identifier: urn:hl7ii:2.16.840.1.113883.10.20.5.6.224:2014-12-01) (CONF:1129-30366).

**Figure 44: Carbapenemase Test Organizer Example**

```
<organizer classCode="CLUSTER" moodCode="EVN">
  <!-- C-CDA Result Organizer templateId -->
  <templateId root="2.16.840.1.113883.10.20.22.4.1"/>
  <!-- Carbapenemase Test Organizer templateId-->
  <templateId root="2.16.840.1.113883.10.20.5.6.223"
    extension="2014-12-01"/>
  <id nullFlavor="NA"/>
  <code code="18725-2" displayName="Microbiology Studies"
    codeSystem="2.16.840.1.113883.6.1"
    codeSystemName="LOINC"/>
  <statusCode code="completed"/>
  <component typeCode="COMP">
    <!-- Carbapenemase Test Observation -->
    <observation classCode="OBS" moodCode="EVN">
      <!-- C-CDA Result Observation templateId -->
      <templateId root="2.16.840.1.113883.10.20.22.4.2"/>
      <!-- Carbapenemase Test Observation templateId-->
      <templateId root="2.16.840.1.113883.10.20.5.6.224"
        extension="2014-12-01"/>
      ...
    </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"/>
      <!-- Carbapenemase Test Observation templateId-->
      <templateId root="2.16.840.1.113883.10.20.5.6.224"
        extension="2014-12-01"/>
      ...
    </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"/>
      <!-- Carbapenemase Test Observation templateId-->
      <templateId root="2.16.840.1.113883.10.20.5.6.224"
        extension="2014-12-01"/>
      ...
    </observation>
  </component>
</organizer>
```



### 3.18 Carbapenemase Type Identified Observation

```
[observation: identifier urn:hl7ii:2.16.840.1.113883.10.20.5.6.226:2014-12-01
(closed)]
```

**Table 138: Carbapenemase Type Identified Observation Contexts**

Contained By:	Contains:
<a href="#">Positive Test for Carbapenemase Observation</a> (optional)	

This template represents a carbapenemase type identified when the bacterial isolate was tested.

If the type of carbapenemase is other than one specified in NHSNCarbaDetectType, use value/@nullFlavor="OTH" and enter the carbapenemase type in value/originalText.

**Table 139: Carbapenemase Type Identified Observation Constraints Overview**

<b>XPath</b>	<b>Card.</b>	<b>Verb</b>	<b>Data Type</b>	<b>CONF#</b>	<b>Value</b>
observation (identifier: urn:hl7ii:2.16.840.1.113883.10.20.5.6.226:2014-12-01)					
@classCode	1..1	SHALL		<a href="#">1129-30453</a>	2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		<a href="#">1129-30454</a>	2.16.840.1.113883.5.1001 (ActMood) = EVN
templateId	1..1	SHALL		<a href="#">1129-30442</a>	
@root	1..1	SHALL		<a href="#">1129-30448</a>	2.16.840.1.113883.10.20.22.4.2
templateId	1..1	SHALL		<a href="#">1129-30513</a>	
@root	1..1	SHALL		<a href="#">1129-30514</a>	2.16.840.1.113883.10.20.5.6.226
@extension	1..1	SHALL		<a href="#">1129-30515</a>	2014-12-01
id	1..1	SHALL		<a href="#">1129-30443</a>	
@nullFlavor	1..1	SHALL		<a href="#">1129-30450</a>	NA
code	1..1	SHALL		<a href="#">1129-30459</a>	
@code	1..1	SHALL		<a href="#">1129-30460</a>	2049-5
@codeSystem	1..1	SHALL		<a href="#">1129-30461</a>	2.16.840.1.113883.6.277 (cdcNHSN) = 2.16.840.1.113883.6.277
statusCode	1..1	SHALL		<a href="#">1129-30444</a>	
@code	1..1	SHALL		<a href="#">1129-30451</a>	completed
effectiveTime	1..1	SHALL		<a href="#">1129-30445</a>	
@nullFlavor	1..1	SHALL		<a href="#">1129-30452</a>	NA
value	1..1	SHALL	CD	<a href="#">1129-30447</a>	2.16.840.1.114222.4.11.7241 (NHSNCarbaDetectType)
@nullFlavor	0..1	MAY		<a href="#">1129-30457</a>	OTH
originalText	0..1	MAY		<a href="#">1129-30458</a>	

1. Conforms to Result Observation template (identifier: urn: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:1129-30453).
3. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" (CodeSystem: ActMood 2.16.840.1.113883.5.1001) (CONF:1129-30454).
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:1129-30442) such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.22.4.2" (CONF:1129-30448).
5. **SHALL** contain exactly one [1..1] **templateId** (CONF:1129-30513) such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.5.6.226" (CONF:1129-30514).
  - b. **SHALL** contain exactly one [1..1] **@extension**="2014-12-01" (CONF:1129-30515).
6. **SHALL** contain exactly one [1..1] **id** (CONF:1129-30443).
  - a. This id **SHALL** contain exactly one [1..1] **@nullFlavor**="NA" (CONF:1129-30450).
7. **SHALL** contain exactly one [1..1] **code** (CONF:1129-30459).
  - a. This code **SHALL** contain exactly one [1..1] **@code**="2049-5" Carbapenemase Type Identified (CONF:1129-30460).
  - b. 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:1129-30461).
8. **SHALL** contain exactly one [1..1] **statusCode** (CONF:1129-30444).
  - a. This statusCode **SHALL** contain exactly one [1..1] **@code**="completed" (CONF:1129-30451).
9. **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:1129-30445).
  - a. This effectiveTime **SHALL** contain exactly one [1..1] **@nullFlavor**="NA" (CONF:1129-30452).

If the type of carbapenemase is other than one specified in NHSNCarbaDetectType, use value/**@nullFlavor**="OTH" and enter the carbapenemase type in value/originalText.

10. **SHALL** contain exactly one [1..1] **value** with **@xsi:type**="CD", where the code **SHOULD** be selected from ValueSet [NHSNCarbaDetectType](#) 2.16.840.1.114222.4.11.7241 **DYNAMIC** (CONF:1129-30447).
  - a. This value **MAY** contain zero or one [0..1] **@nullFlavor**="OTH" (CONF:1129-30457).
  - b. This value **MAY** contain zero or one [0..1] **originalText** (CONF:1129-30458).

**Table 140: NHSNCarbaDetectType**

Value Set: NHSNCarbaDetectType 2.16.840.1.114222.4.11.7241			
Identified carbapenemase			
Value Set Source: <a href="http://www.phinvads.com">http://www.phinvads.com</a>			
Code	Code System	Code System OID	Print Name
2050-3	cdcNHSN	2.16.840.1.113883.6.277	(KPC) Klebsiella pneumoniae carbapenemase
2051-1	cdcNHSN	2.16.840.1.113883.6.277	(NDM) New Delhi metallo- $\beta$ -lactamase
2052-9	cdcNHSN	2.16.840.1.113883.6.277	(IMP) Imipenemase
2053-7	cdcNHSN	2.16.840.1.113883.6.277	(VIM) Verona integron-encoded metallo- $\beta$ -lactamase
2054-5	cdcNHSN	2.16.840.1.113883.6.277	(OXA-48 like) Oxacillinase-48 like
2055-2	cdcNHSN	2.16.840.1.113883.6.277	(NS-Carba) Nonspecific carbapenemase activity (e.g., MHT or Carba NP)
2056-0	cdcNHSN	2.16.840.1.113883.6.277	(NS-MBL) Nonspecific metallo- $\beta$ -lactamase activity (e.g., MBL E-test or MBL screen)

**Figure 45: Carbapenemase Type 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"/>
  <!-- Carbapenemase Type Identified Observation templateId-->
  <templateId root="2.16.840.1.113883.10.20.5.6.226"
    extension="2014-12-01"/>
  <id nullFlavor="NA"/>
  <code code="2049-5"
    displayName="Carbapenemase Type Identified"
    codeSystem="2.16.840.1.113883.6.277" codeSystemName="cdcNHSN"/>
  <statusCode code="completed"/>
  <effectiveTime nullFlavor="NA"/>
  <value xsi:type="CD" code="2052-9"
    displayName="(IMP) Imipenemase"
    codeSystem="2.16.840.1.113883.6.277"
    codeSystemName="cdcNHSN"/>
</observation>

```

**Figure 46: Carbapenemase Type Identified Observation - Other Example**

```
<observation classCode="OBS" moodCode="EVN">
  <!-- C-CDA Result Observation templateId -->
  <templateId root="2.16.840.1.113883.10.20.22.4.2"/>
  <!-- Carbapenemase Type Identified Observation templateId-->
  <templateId root="2.16.840.1.113883.10.20.5.6.226"
    extension="2014-12-01"/>
  <id nullFlavor="NA"/>
  <code code="2049-5"
    displayName="Carbapenemase Type Identified"
    codeSystem="2.16.840.1.113883.6.277"
    codeSystemName="cdcNHSN"/>
  <statusCode code="completed"/>
  <effectiveTime nullFlavor="NA"/>
  <value xsi:type="CD" nullFlavor="OTH">
    <originalText>Other carbapenemase type not in value set</originalText>
  </value>
</observation>
```

### 3.19 Central-Line Insertion Practice Clinical Statement (V2)

[act: identifier urn:hl7ii:2.16.840.1.113883.10.20.5.6.116:2014-12-01  
(closed)]

**Table 141: Central-Line Insertion Practice Clinical Statement (V2) Contexts**

Contained By:	Contains:
<a href="#">Infection Risk Factors Section in a CLIP Report (V2)</a> (required)	<a href="#">Central-Line Insertion Preparation Organizer (V2)</a> <a href="#">Solutions Dried Observation</a>

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 142: Central-Line Insertion Practice Clinical Statement (V2) Constraints Overview**

XPath	Card.	Verb	Data Type	CONF#	Value
act (identifier: urn:hl7ii:2.16.840.1.113883.10.20.5.6.116:2014-12-01)					
@classCode	1..1	SHALL		<a href="#">1129-22005</a>	2.16.840.1.113883.5.6 (HL7ActClass) = ACT
@moodCode	1..1	SHALL		<a href="#">1129-22006</a>	2.16.840.1.113883.5.1001 (ActMood) = EVN
@negationInd	1..1	SHALL		<a href="#">1129-22007</a>	false
templateId	1..1	SHALL		<a href="#">1129-30516</a>	
@root	1..1	SHALL		<a href="#">1129-30517</a>	2.16.840.1.113883.10.20.22.4.12
templateId	1..1	SHALL		<a href="#">1129-22965</a>	
@root	1..1	SHALL		<a href="#">1129-28111</a>	2.16.840.1.113883.10.20.5.6.116
@extension	1..1	SHALL		<a href="#">1129-30518</a>	2014-12-01
id	1..1	SHALL		<a href="#">1129-22966</a>	
@nullFlavor	1..1	SHALL		<a href="#">1129-22968</a>	2.16.840.1.113883.5.1008 (HL7NullFlavor) = NA
code	1..1	SHALL		<a href="#">1129-22018</a>	
@code	1..1	SHALL		<a href="#">1129-22019</a>	2.16.840.1.113883.6.277 (cdcNHSN) = 3108-8
entryRelationship	1..1	SHALL		<a href="#">1129-22008</a>	
@typeCode	1..1	SHALL		<a href="#">1129-22009</a>	2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = COMP
sequenceNumber	1..1	SHALL		<a href="#">1129-22011</a>	
@value	1..1	SHALL		<a href="#">1129-22012</a>	1
organizer	1..1	SHALL		<a href="#">1129-30425</a>	<a href="#">Central-Line Insertion Preparation Organizer (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.5.6.179:2014-12-01)</a>
entryRelationship	1..1	SHALL		<a href="#">1129-22013</a>	
@typeCode	1..1	SHALL		<a href="#">1129-22014</a>	2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = COMP

sequenceNumber	1..1	SHALL		<a href="#">1129-22016</a>	
@value	1..1	SHALL		<a href="#">1129-22017</a>	2
observation	1..1	SHALL		<a href="#">1129-22015</a>	<a href="#">Solutions Dried Observation (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.163)</a>

1. Conforms to Procedure Activity Act template (identifier: urn: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:1129-22005).
3. **SHALL** contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:1129-22006).
4. **SHALL** contain exactly one [1..1] @negationInd="false" (CONF:1129-22007).
5. **SHALL** contain exactly one [1..1] templateId (CONF:1129-30516) such that it
  - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.4.12" (CONF:1129-30517).
6. **SHALL** contain exactly one [1..1] templateId (CONF:1129-22965) such that it
  - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.6.116" (CONF:1129-28111).
  - b. **SHALL** contain exactly one [1..1] @extension="2014-12-01" (CONF:1129-30518).
7. **SHALL** contain exactly one [1..1] id (CONF:1129-22966).
  - a. This id **SHALL** contain exactly one [1..1] @nullFlavor="NA" (CodeSystem: HL7NullFlavor 2.16.840.1.113883.5.1008) (CONF:1129-22968).
8. **SHALL** contain exactly one [1..1] code (CONF:1129-22018).
  - a. 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:1129-22019).
9. **SHALL** contain exactly one [1..1] entryRelationship (CONF:1129-22008) such that it
  - a. **SHALL** contain exactly one [1..1] @typeCode="COMP" Has component (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002 **STATIC**) (CONF:1129-22009).
  - b. **SHALL** contain exactly one [1..1] sequenceNumber (CONF:1129-22011).
    - i. This sequenceNumber **SHALL** contain exactly one [1..1] @value="1" (CONF:1129-22012).
  - c. **SHALL** contain exactly one [1..1] [Central-Line Insertion Preparation Organizer \(V2\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.5.6.179:2014-12-01) (CONF:1129-30425).
10. **SHALL** contain exactly one [1..1] entryRelationship (CONF:1129-22013) such that it
  - a. **SHALL** contain exactly one [1..1] @typeCode="COMP" Has component (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002 **STATIC**) (CONF:1129-22014).

- b. **SHALL** contain exactly one [1..1] **sequenceNumber** (CONF:1129-22016).
  - i. This **sequenceNumber** **SHALL** contain exactly one [1..1] **@value="2"** (CONF:1129-22017).
- c. **SHALL** contain exactly one [1..1] **Solutions Dried Observation** (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.163) (CONF:1129-22015).

**Figure 47: Central-Line Insertion Practice Clinical Statement (V2) 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 (V2) templateId -->
  <templateId root="2.16.840.1.113883.10.20.5.6.116"
    extension="2014-12-01" />
  <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 (V2) -->
      <templateId root="2.16.840.1.113883.10.20.5.6.179"
        extension="2014-12-01" />
      ...
    </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>
```

### 3.20 Central-Line Insertion Preparation Organizer (V2)

[organizer: identifier urn:h17ii:2.16.840.1.113883.10.20.5.6.179:2014-12-01  
(closed)]

**Table 143: Central-Line Insertion Preparation Organizer (V2) Contexts**

Contained By:	Contains:
<a href="#">Central-Line Insertion Practice Clinical Statement (V2)</a> (required)	<a href="#">Hand Hygiene Performed Clinical Statement</a> <a href="#">Skin-Preparation Solutions Applied Organizer (V2)</a> <a href="#">Sterile Barriers Applied Clinical Statement</a>



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 144: Central-Line Insertion Preparation Organizer (V2) Constraints Overview**

XPath	Card.	Verb	Data Type	CONF#	Value
organizer (identifier: urn:hl7ii:2.16.840.1.113883.10.20.5.6.179:2014-12-01)					
@classCode	1..1	SHALL		<a href="#">1129-22086</a>	2.16.840.1.113883.5.6 (HL7ActClass) = CLUSTER
@moodCode	1..1	SHALL		<a href="#">1129-22087</a>	2.16.840.1.113883.5.1001 (ActMood) = EVN
templateId	1..1	SHALL		<a href="#">1129-22088</a>	
@root	1..1	SHALL		<a href="#">1129-22089</a>	2.16.840.1.113883.10.20.5.6.179
@extension	1..1	SHALL		<a href="#">1129-30279</a>	2014-12-01
id	1..1	SHALL		<a href="#">1129-22090</a>	
@nullFlavor	1..1	SHALL		<a href="#">1129-22733</a>	NA
statusCode	1..1	SHALL		<a href="#">1129-22091</a>	
@code	1..1	SHALL		<a href="#">1129-23060</a>	2.16.840.1.113883.5.14 (ActStatus) = completed
component	1..1	SHALL		<a href="#">1129-22092</a>	
procedure	1..1	SHALL		<a href="#">1129-23057</a>	<a href="#">Hand Hygiene Performed Clinical Statement (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.130)</a>
component	1..1	SHALL		<a href="#">1129-22093</a>	
organizer	1..1	SHALL		<a href="#">1129-30426</a>	<a href="#">Skin-Preparation Solutions Applied Organizer (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.5.6.183:2014-12-01)</a>
component	1..1	SHALL		<a href="#">1129-22094</a>	
procedure	1..1	SHALL		<a href="#">1129-23059</a>	<a href="#">Sterile Barriers Applied Clinical Statement (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.167)</a>

1. **SHALL** contain exactly one [1..1] @classCode="CLUSTER" Cluster (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 **STATIC**) (CONF:1129-22086).

2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:1129-22087).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:1129-22088) such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.5.6.179" (CONF:1129-22089).
  - b. **SHALL** contain exactly one [1..1] **@extension**="2014-12-01" (CONF:1129-30279).
4. **SHALL** contain exactly one [1..1] **id** (CONF:1129-22090).
  - a. This id **SHALL** contain exactly one [1..1] **@nullFlavor**="NA" (CONF:1129-22733).
5. **SHALL** contain exactly one [1..1] **statusCode** (CONF:1129-22091).
  - a. This statusCode **SHALL** contain exactly one [1..1] **@code**="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14) (CONF:1129-23060).
6. **SHALL** contain exactly one [1..1] **component** (CONF:1129-22092) such that it
  - a. **SHALL** contain exactly one [1..1] Hand Hygiene Performed Clinical Statement (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.130) (CONF:1129-23057).
7. **SHALL** contain exactly one [1..1] **component** (CONF:1129-22093) such that it
  - a. **SHALL** contain exactly one [1..1] Skin-Preparation Solutions Applied Organizer (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.5.6.183:2014-12-01) (CONF:1129-30426).
8. **SHALL** contain exactly one [1..1] **component** (CONF:1129-22094) such that it
  - a. **SHALL** contain exactly one [1..1] Sterile Barriers Applied Clinical Statement (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.167) (CONF:1129-23059).

**Figure 48: Central-Line Insertion Preparation Organizer (V2) Example**

```
<organizer moodCode="EVN" classCode="CLUSTER">
  <templateId root="2.16.840.1.113883.10.20.5.6.179"
    extension="2014-12-01"/>
  <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 (V2) -->
      <templateId root="2.16.840.1.113883.10.20.5.6.183"
        extension="2014-12-01"/>
      ...
    </organizer>
  </component>
  <component>
    <procedure>
      <!--Sterile Barriers Applied Clinical Statement -->
      <!-- 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>
```

### 3.21 Closure Technique Procedure

[procedure: identifier urn:oid:2.16.840.1.113883.10.20.5.6.117 (closed)]

**Table 145: Closure Technique Procedure Contexts**

Contained By:	Contains:
<a href="#">Procedure Details Clinical Statement in a Procedure Report (V2)</a> (required)	

This procedure identifies the closure technique used in surgical procedures.

**Table 146: Closure Technique Procedure Constraints Overview**

XPath	Card.	Verb	Data Type	CONF#	Value
procedure (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.117)					
@classCode	1..1	SHALL		<a href="#">86-21028</a>	PROC
@moodCode	1..1	SHALL		<a href="#">86-21029</a>	EVN
templateId	1..1	SHALL		<a href="#">86-28219</a>	
@root	1..1	SHALL		<a href="#">86-28220</a>	2.16.840.1.113883.10.20.22.4.14
templateId	1..1	SHALL		<a href="#">86-21038</a>	
@root	1..1	SHALL		<a href="#">86-21039</a>	2.16.840.1.113883.10.20.5.6.117
id	1..1	SHALL		<a href="#">86-21040</a>	
@nullFlavor	1..1	SHALL		<a href="#">86-22734</a>	NA
code	1..1	SHALL		<a href="#">86-21032</a>	
@code	1..1	SHALL		<a href="#">86-21033</a>	112695004
@codeSystem	1..1	SHALL		<a href="#">86-28352</a>	2.16.840.1.113883.6.96 (SNOMED CT) = 2.16.840.1.113883.6.96
statusCode	1..1	SHALL		<a href="#">86-21034</a>	
@code	1..1	SHALL		<a href="#">86-21035</a>	completed
methodCode	1..1	SHALL		<a href="#">86-21036</a>	2.16.840.1.114222.4.11.6051 (NHSNClosureTechniqueCode)

1. Conforms to Procedure Activity Procedure template (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.14).
2. **SHALL** contain exactly one [1..1] @classCode="PROC" (CONF:86-21028).
3. **SHALL** contain exactly one [1..1] @moodCode="EVN" (CONF:86-21029).
4. **SHALL** contain exactly one [1..1] templateId (CONF:86-28219) such that it
  - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.4.14" (CONF:86-28220).
5. **SHALL** contain exactly one [1..1] templateId (CONF:86-21038) such that it
  - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.6.117" (CONF:86-21039).
6. **SHALL** contain exactly one [1..1] id (CONF:86-21040).

- a. This id **SHALL** contain exactly one [1..1] @nullFlavor="NA" (CONF:86-22734).
7. **SHALL** contain exactly one [1..1] code (CONF:86-21032).
  - a. This code **SHALL** contain exactly one [1..1] @code="112695004" Surgical Closure (CONF:86-21033).
  - b. 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:86-28352).
8. **SHALL** contain exactly one [1..1] statusCode (CONF:86-21034).
  - a. This statusCode **SHALL** contain exactly one [1..1] @code="completed" (CONF:86-21035).
9. **SHALL** contain exactly one [1..1] methodCode, which **SHALL** be selected from ValueSet [NHSNClosureTechniqueCode](#) 2.16.840.1.114222.4.11.6051 **STATIC** (CONF:86-21036).

**Table 147: 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 49: 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>

```

### 3.22 Contraindicated Observation (V2)

[observation: identifier urn:hl7ii:2.16.840.1.113883.10.20.5.6.118:2014-12-01  
(closed)]

**Table 148: Contraindicated Observation (V2) Contexts**

Contained By:	Contains:
<a href="#">Skin Preparation Clinical Statement (V2)</a> (optional)	<a href="#">Contraindication Type Observation</a>

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 (i.e., ok to proceed with the treatment specified by the target statement), 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. If the skin preparation choice was not chlorhexidine and there was a contraindication to chlorhexidine, then the contraindication type is required.

**Table 149: Contraindicated Observation (V2) Constraints Overview**

XPath	Card.	Verb	Data Type	CONF#	Value
observation (identifier: urn:hl7ii:2.16.840.1.113883.10.20.5.6.118:2014-12-01)					
@nullFlavor	0..1	SHOULD		<a href="#">1129-21778</a>	
@classCode	1..1	SHALL		<a href="#">1129-21780</a>	2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		<a href="#">1129-21781</a>	2.16.840.1.113883.5.1001 (ActMood) = EVN
@negationInd	0..1	SHOULD		<a href="#">1129-21782</a>	
templateId	1..1	SHALL		<a href="#">1129-30519</a>	
@root	1..1	SHALL		<a href="#">1129-30520</a>	2.16.840.1.113883.10.20.22.4.19
templateId	1..1	SHALL		<a href="#">1129-21785</a>	
@root	1..1	SHALL		<a href="#">1129-28109</a>	2.16.840.1.113883.10.20.5.6.118
@extension	1..1	SHALL		<a href="#">1129-30521</a>	2014-12-01
id	1..1	SHALL		<a href="#">1129-21786</a>	
code	1..1	SHALL		<a href="#">1129-21787</a>	
@code	1..1	SHALL		<a href="#">1129-21788</a>	2.16.840.1.113883.5.4 (ActCode) = ASSERTION
statusCode	1..1	SHALL		<a href="#">1129-21789</a>	
@code	1..1	SHALL		<a href="#">1129-21790</a>	2.16.840.1.113883.5.14 (ActStatus) = completed
value	1..1	SHALL	CD	<a href="#">1129-21791</a>	
@code	1..1	SHALL		<a href="#">1129-21792</a>	2.16.840.1.113883.6.96 (SNOMED CT) = 410536001
entryRelationship	0..*	MAY		<a href="#">1129-28106</a>	
@typeCode	1..1	SHALL		<a href="#">1129-28107</a>	2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = RSON
observation	1..1	SHALL		<a href="#">1129-30427</a>	<a href="#">Contraindication Type Observation (identifier: urn:hl7ii:2.16.840.1.113883.10.20.5.6.216:2014-12-01)</a>

1. Conforms to Indication template (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.19).
2. **SHOULD** contain zero or one [0..1] **@nullFlavor** (CONF:1129-21778).
  - a. 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:1129-21779).
3. **SHALL** contain exactly one [1..1] **@classCode="OBS"** Observation (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 **STATIC**) (CONF:1129-21780).
4. **SHALL** contain exactly one [1..1] **@moodCode="EVN"** Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:1129-21781).
5. **SHOULD** contain zero or one [0..1] **@negationInd** (CONF:1129-21782).
  - a. If the target statement was contraindicated, the value of **@negationInd** **SHALL** be false. If the target statement was not contraindicated (i.e., ok to proceed with the treatment specified by the target statement), the value of **@negationInd** **SHALL** be true. If the value of **@negationInd** is set then the value of **@nullFlavor** **SHALL NOT** be set (CONF:1129-21783).
6. **SHALL** contain exactly one [1..1] **templateId** (CONF:1129-30519) such that it
  - a. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.22.4.19"** (CONF:1129-30520).
7. **SHALL** contain exactly one [1..1] **templateId** (CONF:1129-21785) such that it
  - a. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.5.6.118"** (CONF:1129-28109).
  - b. **SHALL** contain exactly one [1..1] **@extension="2014-12-01"** (CONF:1129-30521).
8. **SHALL** contain exactly one [1..1] **id** (CONF:1129-21786).
  - a. Set the observation/id equal to an ID on the problem list to signify that problem as an indication (CONF:1129-21793).
9. **SHALL** contain exactly one [1..1] **code** (CONF:1129-21787).
  - a. This code **SHALL** contain exactly one [1..1] **@code="ASSERTION"** Assertion (CodeSystem: ActCode 2.16.840.1.113883.5.4 **STATIC**) (CONF:1129-21788).
10. **SHALL** contain exactly one [1..1] **statusCode** (CONF:1129-21789).
  - a. This statusCode **SHALL** contain exactly one [1..1] **@code="completed"** Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14 **STATIC**) (CONF:1129-21790).
11. **SHALL** contain exactly one [1..1] **value** with **@xsi:type="CD"** (CONF:1129-21791).
  - a. This value **SHALL** contain exactly one [1..1] **@code="410536001"** Contraindicated (CodeSystem: SNOMED CT 2.16.840.1.113883.6.96 **STATIC**) (CONF:1129-21792).

If the skin preparation choice was not chlorhexidine and there was a contraindication to chlorhexidine, the following entryRelationship is required.

12. **MAY** contain zero or more [0..\*] **entryRelationship** (CONF:1129-28106) such that it
  - a. **SHALL** contain exactly one [1..1] **@typeCode="RSON"** Has reason (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002) (CONF:1129-28107).



- b. **SHALL** contain exactly one [1..1] [Contraindication Type Observation](#)  
(identifier: urn:hl7ii:2.16.840.1.113883.10.20.5.6.216:2014-12-01)  
(CONF:1129-30427).

**Figure 50: Contraindicated Observation (V2) 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 (V2) templateId -->
  <templateId root="2.16.840.1.113883.10.20.5.6.118"
    extension="2014-12-01"/>
  <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 CT" displayName="Contraindicated"/>
  <entryRelationship typeCode="RSON">
    <!-- Contraindication Type Observation -->
    <observation moodCode="EVN" classCode="OBS">
      <!-- C-CDA Problem Observation templateId -->
      <templateId root="2.16.840.1.113883.10.20.22.4.9"/>
      <!-- Contraindication Type Observation templateId -->
      <templateId root="2.16.840.1.113883.10.20.5.6.216"
        extension="2014-12-01"/>
      ...
    </observation>
  </entryRelationship>
</observation>
```

**Figure 51: Contraindicated Observation (V2) 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 (V2) templateId -->
  <templateId root="2.16.840.1.113883.10.20.5.6.118"
    extension="2014-12-01" />
  <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>
```

### 3.23 Contraindication Type Observation

[observation: identifier urn:hl7ii:2.16.840.1.113883.10.20.5.6.216:2014-12-01  
(closed)]

**Table 150: Contraindication Type Observation Contexts**

Contained By:	Contains:
<a href="#">Contraindicated Observation (V2)</a> (optional)	

This template represents the type of contraindication.

**Table 151: Contraindication Type Observation Constraints Overview**

XPath	Card.	Verb	Data Type	CONF#	Value
observation (identifier: urn:hl7ii:2.16.840.1.113883.10.20.5.6.216:2014-12-01)					
@classCode	1..1	SHALL		<a href="#">1129-5</a>	2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		<a href="#">1129-6</a>	2.16.840.1.113883.5.1001 (ActMood) = EVN
templateId	1..1	SHALL		<a href="#">1129-30522</a>	
@root	1..1	SHALL		<a href="#">1129-30523</a>	2.16.840.1.113883.10.20.5.6.216
@extension	1..1	SHALL		<a href="#">1129-30524</a>	2014-12-01
code	1..1	SHALL		<a href="#">1129-2</a>	
@code	1..1	SHALL		<a href="#">1129-8</a>	6130-9
@codeSystem	1..1	SHALL		<a href="#">1129-9</a>	2.16.840.1.113883.6.277 (cdcNHSN) = 2.16.840.1.113883.6.277
statusCode	1..1	SHALL		<a href="#">1129-4</a>	
@code	1..1	SHALL		<a href="#">1129-12</a>	2.16.840.1.113883.5.14 (ActStatus) = completed
value	1..1	SHALL	CD	<a href="#">1129-10</a>	2.16.840.1.114222.4.11.7239 (NHSNContraindicationType)

1. **SHALL** contain exactly one [1..1] @classCode="OBS" (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 **STATIC**) (CONF:1129-5).
2. **SHALL** contain exactly one [1..1] @moodCode="EVN" (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:1129-6).
3. **SHALL** contain exactly one [1..1] templateId (CONF:1129-30522) such that it
  - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.6.216" (CONF:1129-30523).
  - b. **SHALL** contain exactly one [1..1] @extension="2014-12-01" (CONF:1129-30524).
4. **SHALL** contain exactly one [1..1] code (CONF:1129-2).

- a. This code **SHALL** contain exactly one [1..1] @code="6130-9" Contraindication type (CONF:1129-8).
- b. 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 **STATIC**) (CONF:1129-9).
5. **SHALL** contain exactly one [1..1] statusCode (CONF:1129-4).
  - a. This statusCode **SHALL** contain exactly one [1..1] @code="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14 **STATIC**) (CONF:1129-12).
6. **SHALL** contain exactly one [1..1] value with @xsi:type="CD", where the code **SHALL** be selected from ValueSet [NHSNContraindicationType](#) 2.16.840.1.114222.4.11.7239 **DYNAMIC** (CONF:1129-10).

**Table 152: NHSNContraindicationType**

Value Set: NHSNContraindicationType 2.16.840.1.114222.4.11.7239			
Code	Code System	Code System OID	Print Name
6131-7	cdcNHSN	2.16.840.1.113883.6.277	Patient is less than 2 months of age - chlorhexidine is to be used with caution in patients less than 2 months of age.
6132-5	cdcNHSN	2.16.840.1.113883.6.277	Patient has a documented/known allergy/reaction to CHG based products that would preclude its use
6133-3	cdcNHSN	2.16.840.1.113883.6.277	Facility restrictions or safety concerns for CHG use in premature infants precludes its use

**Figure 52: Contraindication Type Observation Example**

```

<observation moodCode="EVN" classCode="OBS">
  <!-- Contraindication Type Observation templateId -->
  <templateId root="2.16.840.1.113883.10.20.5.6.216"
    extension="2014-12-01" />
  <code code="6130-9"
    displayName="Contraindication type"
    codeSystem="2.16.840.1.113883.6.277"
    codeSystemName="cdcNHSN"/>
  <statusCode code="completed"/>
  <value xsi:type="CD"
    code="6133-3"
    codeSystem="2.16.840.1.113883.6.277"
    codeSystemName="cdcNHSN"
    displayName="Facility restrictions or safety concerns for CHG use in
      premature infants precludes its use"/>
</observation>

```

### 3.24 Criteria of Diagnosis Organizer

[organizer: identifier urn:oid:2.16.840.1.113883.10.20.5.6.180 (closed)]

**Table 153: Criteria of Diagnosis Organizer Contexts**

Contained By:	Contains:
<a href="#">Infection-Type Observation</a> (required) <a href="#">Surgical Site Infection Observation</a> (required) <a href="#">Details Section in an Evidence of Infection (Dialysis) Report (V3)</a> (required)	<a href="#">Criterion of Diagnosis Observation</a>

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 154: Criteria of Diagnosis Organizer Constraints Overview**

XPath	Card.	Verb	Data Type	CONF#	Value
organizer (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.180)					
@classCode	1..1	SHALL		<a href="#">86-22101</a>	2.16.840.1.113883.5.6 (HL7ActClass) = CLUSTER
@moodCode	1..1	SHALL		<a href="#">86-22102</a>	2.16.840.1.113883.5.1001 (ActMood) = EVN
templateId	1..1	SHALL		<a href="#">86-22103</a>	
@root	1..1	SHALL		<a href="#">86-22104</a>	2.16.840.1.113883.10.20.5.6.180
statusCode	1..1	SHALL		<a href="#">86-22106</a>	
@code	1..1	SHALL		<a href="#">86-23061</a>	2.16.840.1.113883.5.14 (ActStatus) = completed
component	1..*	SHALL		<a href="#">86-22107</a>	
observation	1..1	SHALL		<a href="#">86-23062</a>	<a href="#">Criterion of Diagnosis Observation (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.119</a>

1. **SHALL** contain exactly one [1..1] @classCode="CLUSTER" Cluster (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 **STATIC**) (CONF:86-22101).
2. **SHALL** contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:86-22102).
3. **SHALL** contain exactly one [1..1] templateId (CONF:86-22103) such that it
  - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.6.180" (CONF:86-22104).
4. **SHALL** contain exactly one [1..1] statusCode (CONF:86-22106).
  - a. This statusCode **SHALL** contain exactly one [1..1] @code="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14) (CONF:86-23061).
5. **SHALL** contain at least one [1..\*] component (CONF:86-22107).
  - a. Such components **SHALL** contain exactly one [1..1] [Criterion of Diagnosis Observation](#) (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.119) (CONF:86-23062).

**Figure 53: 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>
```

### 3.25 Criterion of Diagnosis Observation

[observation: identifier urn:oid:2.16.840.1.113883.10.20.5.6.119 (closed)]

**Table 155: Criterion of Diagnosis Observation Contexts**

Contained By:	Contains:
<a href="#">Criteria of Diagnosis Organizer</a> (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 156: Criterion of Diagnosis Observation Constraints Overview**

XPath	Card.	Verb	Data Type	CONF#	Value
observation (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.119)					
@classCode	1..1	SHALL		<a href="#">86-22126</a>	2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		<a href="#">86-22127</a>	2.16.840.1.113883.5.1001 (ActMood) = EVN
@negationInd	1..1	SHALL		<a href="#">86-22128</a>	
templateId	1..1	SHALL		<a href="#">86-28221</a>	
@root	1..1	SHALL		<a href="#">86-28222</a>	2.16.840.1.113883.10.20.22.4.19
templateId	1..1	SHALL		<a href="#">86-22129</a>	
@root	1..1	SHALL		<a href="#">86-22140</a>	2.16.840.1.113883.10.20.5.6.119
id	1..1	SHALL		<a href="#">86-22130</a>	
@nullFlavor	1..1	SHALL		<a href="#">86-22736</a>	NA
code	1..1	SHALL		<a href="#">86-22131</a>	
@code	1..1	SHALL		<a href="#">86-22132</a>	2.16.840.1.113883.5.4 (ActCode) = ASSERTION
statusCode	1..1	SHALL		<a href="#">86-22133</a>	
@code	1..1	SHALL		<a href="#">86-22134</a>	2.16.840.1.113883.5.14 (ActStatus) = completed
value	1..1	SHALL		<a href="#">86-22135</a>	

1. Conforms to Indication template (identifier: urn: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:86-22126).
3. **SHALL** contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:86-22127).
4. **SHALL** contain exactly one [1..1] @negationInd (CONF:86-22128).
5. **SHALL** contain exactly one [1..1] templateId (CONF:86-28221) such that it
  - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.4.19" (CONF:86-28222).
6. **SHALL** contain exactly one [1..1] templateId (CONF:86-22129) such that it

- a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.5.6.119" (CONF:86-22140).
- 7. **SHALL** contain exactly one [1..1] **id** (CONF:86-22130).
  - a. This **id** **SHALL** contain exactly one [1..1] **@nullFlavor**="NA" (CONF:86-22736).
- 8. **SHALL** contain exactly one [1..1] **code** (CONF:86-22131).
  - a. This **code** **SHALL** contain exactly one [1..1] **@code**="ASSERTION" Assertion (CodeSystem: ActCode 2.16.840.1.113883.5.4 **STATIC**) (CONF:86-22132).
- 9. **SHALL** contain exactly one [1..1] **statusCode** (CONF:86-22133).
  - a. This **statusCode** **SHALL** contain exactly one [1..1] **@code**="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14 **STATIC**) (CONF:86-22134).
- 10. **SHALL** contain exactly one [1..1] **value** (CONF:86-22135).
  - a. 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:86-22136).
  - b. In an Evidence of Infection (Dialysis) Report, (CONF:86-22137).
    - i. 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:86-22138).
    - ii. 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:86-22139).

**Table 157: 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	>=2 positive cultures with >=10 <sup>2</sup> col/ml of same uropathogen from nonvoided specimen
1931-5	cdcNHSN	2.16.840.1.113883.6.277	>=2 positive urine cultures with >=10 <sup>5</sup> col/cc with no more than 2 organisms
1923-3	cdcNHSN	2.16.840.1.113883.6.277	>=5% BAL cells w/bacteria
1942-2	cdcNHSN	2.16.840.1.113883.6.277	>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 >=10 <sup>5</sup> col/cc with no more than 2 organisms
2403-4	cdcNHSN	2.16.840.1.113883.6.277	1 positive culture with >=10 <sup>3</sup> CFU/ml and <10 <sup>5</sup> CFU/ml with no more than 2 species of microorganisms
1930-7	cdcNHSN	2.16.840.1.113883.6.277	1 positive culture with <=10 <sup>5</sup> 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 >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 54: 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>

```

### 3.26 Death Observation

[observation: identifier urn:oid:2.16.840.1.113883.10.20.5.6.120 (closed)]

**Table 158: Death Observation Contexts**

Contained By:	Contains:
<a href="#">Infection Details Section in a BSI Report</a> (optional) <a href="#">Infection Details Section in a UTI Report</a> (optional) <a href="#">Infection Details Section in an SSI Report (V2)</a> (optional)	<a href="#">Infection Contributed to Death Observation</a>

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 159: Death Observation Constraints Overview**

<b>XPath</b>	<b>Card.</b>	<b>Verb</b>	<b>Data Type</b>	<b>CONF#</b>	<b>Value</b>
observation (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.120)					
@classCode	1..1	SHALL		<a href="#">86-19611</a>	2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		<a href="#">86-19612</a>	2.16.840.1.113883.5.1001 (ActMood) = EVN
@negationInd	1..1	SHALL		<a href="#">86-19613</a>	
templateId	1..1	SHALL		<a href="#">86-28223</a>	
@root	1..1	SHALL		<a href="#">86-28224</a>	2.16.840.1.113883.10.20.22.4.79
templateId	1..1	SHALL		<a href="#">86-19623</a>	
@root	1..1	SHALL		<a href="#">86-19624</a>	2.16.840.1.113883.10.20.5.6.120
id	1..1	SHALL		<a href="#">86-19625</a>	
@nullFlavor	1..1	SHALL		<a href="#">86-22739</a>	NA
code	1..1	SHALL		<a href="#">86-19614</a>	
@code	1..1	SHALL		<a href="#">86-19615</a>	2.16.840.1.113883.5.4 (ActCode) = ASSERTION
statusCode	1..1	SHALL		<a href="#">86-19616</a>	
@code	1..1	SHALL		<a href="#">86-19617</a>	2.16.840.1.113883.5.14 (ActStatus) = completed
effectiveTime	1..1	SHALL		<a href="#">86-19626</a>	
low	1..1	SHALL		<a href="#">86-19627</a>	
@nullFlavor	1..1	SHALL		<a href="#">86-22740</a>	NA
value	1..1	SHALL	CD	<a href="#">86-19618</a>	
@code	1..1	SHALL		<a href="#">86-19619</a>	419099009
@codeSystem	1..1	SHALL		<a href="#">86-28353</a>	2.16.840.1.113883.6.96 (SNOMED CT) = 2.16.840.1.113883.6.96
entryRelationship	0..1	MAY		<a href="#">86-23063</a>	
@typeCode	1..1	SHALL		<a href="#">86-23064</a>	2.16.840.1.113883.5.1002 (HL7ActRelationshipType) =

					CAUS
@inversionInd	1..1	SHALL		<a href="#">86-23065</a>	true
@negationInd	1..1	SHALL		<a href="#">86-23066</a>	
observation	1..1	SHALL		<a href="#">86-23068</a>	<a href="#">Infection Contributed to Death Observation (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.136)</a>

1. Conforms to Deceased Observation template (identifier: urn: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:86-19611).
3. **SHALL** contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:86-19612).
4. **SHALL** contain exactly one [1..1] @negationInd (CONF:86-19613).
5. **SHALL** contain exactly one [1..1] templateId (CONF:86-28223) such that it
  - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.4.79" (CONF:86-28224).
6. **SHALL** contain exactly one [1..1] templateId (CONF:86-19623) such that it
  - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.6.120" (CONF:86-19624).
7. **SHALL** contain exactly one [1..1] id (CONF:86-19625).
  - a. This id **SHALL** contain exactly one [1..1] @nullFlavor="NA" (CONF:86-22739).
8. **SHALL** contain exactly one [1..1] code (CONF:86-19614).
  - a. This code **SHALL** contain exactly one [1..1] @code="ASSERTION" Assertion (CodeSystem: ActCode 2.16.840.1.113883.5.4 **STATIC**) (CONF:86-19615).
9. **SHALL** contain exactly one [1..1] statusCode (CONF:86-19616).
  - a. This statusCode **SHALL** contain exactly one [1..1] @code="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14 **STATIC**) (CONF:86-19617).
10. **SHALL** contain exactly one [1..1] effectiveTime (CONF:86-19626).
  - a. This effectiveTime **SHALL** contain exactly one [1..1] low (CONF:86-19627).
    - i. This low **SHALL** contain exactly one [1..1] @nullFlavor="NA" (CONF:86-22740).
11. **SHALL** contain exactly one [1..1] value with @xsi:type="CD" (CONF:86-19618).
  - a. This value **SHALL** contain exactly one [1..1] @code="419099009" Dead (CONF:86-19619).
  - b. This value **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:86-28353).
12. **MAY** contain zero or one [0..1] entryRelationship (CONF:86-23063).
  - a. The entryRelationship, if present, **SHALL** contain exactly one [1..1] @typeCode="CAUS" (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002) (CONF:86-23064).

- b. The entryRelationship, if present, **SHALL** contain exactly one [1..1] **@inversionInd="true"** (CONF:86-23065).
- c. The entryRelationship, if present, **SHALL** contain exactly one [1..1] **@negationInd** (CONF:86-23066).
  - i. 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:86-23067).
- d. The entryRelationship, if present, **SHALL** contain exactly one [1..1] Infection Contributed to Death Observation (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.136) (CONF:86-23068).
- e. If the patient died, an entryRelationship element **SHALL** be present and **SHALL** contain an Infection Contributed to Death Observation (CONF:86-23069).

**Figure 55: 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>
```

### 3.27 Death Observation in an Evidence of Infection (Dialysis) Report

[observation: identifier urn:oid:2.16.840.1.113883.10.20.5.6.121 (closed)]

**Table 160: Death Observation in an Evidence of Infection (Dialysis) Report Contexts**

Contained By:	Contains:
<a href="#">Details Section in an Evidence of Infection (Dialysis) Report [V3]</a> (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 161: Death Observation in an Evidence of Infection (Dialysis) Report Constraints Overview**

XPath	Card.	Verb	Data Type	CONF#	Value
observation (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.121)					
@nullFlavor	0..1	MAY		<a href="#">86-19644</a>	
@classCode	1..1	SHALL		<a href="#">86-19628</a>	2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		<a href="#">86-19629</a>	2.16.840.1.113883.5.1001 (ActMood) = EVN
@negationInd	0..1	MAY		<a href="#">86-19645</a>	
templateId	1..1	SHALL		<a href="#">86-28225</a>	
@root	1..1	SHALL		<a href="#">86-28226</a>	2.16.840.1.113883.10.20.22.4.79
templateId	1..1	SHALL		<a href="#">86-19639</a>	
@root	1..1	SHALL		<a href="#">86-19640</a>	2.16.840.1.113883.10.20.5.6.121
id	1..1	SHALL		<a href="#">86-19641</a>	
@nullFlavor	1..1	SHALL		<a href="#">86-22742</a>	NA
code	1..1	SHALL		<a href="#">86-19630</a>	
@code	1..1	SHALL		<a href="#">86-19631</a>	2.16.840.1.113883.5.4 (ActCode) = ASSERTION
statusCode	1..1	SHALL		<a href="#">86-19632</a>	
@code	1..1	SHALL		<a href="#">86-19633</a>	2.16.840.1.113883.5.14 (ActStatus) = completed
effectiveTime	1..1	SHALL		<a href="#">86-19642</a>	
low	1..1	SHALL		<a href="#">86-19643</a>	
@nullFlavor	1..1	SHALL		<a href="#">86-22743</a>	NA
value	1..1	SHALL	CD	<a href="#">86-19634</a>	
@code	1..1	SHALL		<a href="#">86-19635</a>	2.16.840.1.113883.6.96 (SNOMED CT) = 419099009

1. Conforms to Deceased Observation template (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.79).
2. **MAY** contain zero or one [0..1] @nullFlavor (CONF:86-19644).

- a. If @negationInd is present then @nullFlavor **SHALL NOT** contain a value (CONF:86-19646).
3. **SHALL** contain exactly one [1..1] @classCode="OBS" Observation (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 **STATIC**) (CONF:86-19628).
4. **SHALL** contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:86-19629).
5. **MAY** contain zero or one [0..1] @negationInd (CONF:86-19645).
  - a. If @nullFlavor is present then @negationInd **SHALL NOT** contain a value (CONF:86-19647).
6. **SHALL** contain exactly one [1..1] templateId (CONF:86-28225) such that it
  - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.4.79" (CONF:86-28226).
7. **SHALL** contain exactly one [1..1] templateId (CONF:86-19639) such that it
  - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.6.121" (CONF:86-19640).
8. **SHALL** contain exactly one [1..1] id (CONF:86-19641).
  - a. This id **SHALL** contain exactly one [1..1] @nullFlavor="NA" (CONF:86-22742).
9. **SHALL** contain exactly one [1..1] code (CONF:86-19630).
  - a. This code **SHALL** contain exactly one [1..1] @code="ASSERTION" Assertion (CodeSystem: ActCode 2.16.840.1.113883.5.4 **STATIC**) (CONF:86-19631).
10. **SHALL** contain exactly one [1..1] statusCode (CONF:86-19632).
  - a. This statusCode **SHALL** contain exactly one [1..1] @code="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14 **STATIC**) (CONF:86-19633).
11. **SHALL** contain exactly one [1..1] effectiveTime (CONF:86-19642).
  - a. This effectiveTime **SHALL** contain exactly one [1..1] low (CONF:86-19643).
    - i. This low **SHALL** contain exactly one [1..1] @nullFlavor="NA" (CONF:86-22743).
12. **SHALL** contain exactly one [1..1] value with @xsi:type="CD" (CONF:86-19634).
  - a. This value **SHALL** contain exactly one [1..1] @code="419099009" Dead (CodeSystem: SNOMED CT 2.16.840.1.113883.6.96 **STATIC**) (CONF:86-19635).
13. **SHALL** contain either @nullFlavor or @negationInd, but **SHALL NOT** contain both (CONF:86-19648).



**Figure 56: 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>
```

### 3.28 Device Insertion Time and Location Procedure

[procedure: identifier urn:oid:2.16.840.1.113883.10.20.5.6.122 (closed)]

**Table 162: Device Insertion Time and Location Procedure Contexts**

Contained By:	Contains:
<a href="#">Infection Risk Factors Observation</a> (optional)	
<a href="#">Urinary Catheter Observation</a> (optional)	

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

**Table 163: Device Insertion Time and Location Procedure Constraints Overview**

<b>XPath</b>	<b>Card.</b>	<b>Verb</b>	<b>Data Type</b>	<b>CONF#</b>	<b>Value</b>
procedure (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.122)					
@classCode	1..1	SHALL		<a href="#">86-21041</a>	PROC
@moodCode	1..1	SHALL		<a href="#">86-21042</a>	EVN
templateId	1..1	SHALL		<a href="#">86-28227</a>	
@root	1..1	SHALL		<a href="#">86-28228</a>	2.16.840.1.113883.10.20.22.4.14
templateId	1..1	SHALL		<a href="#">86-21063</a>	
@root	1..1	SHALL		<a href="#">86-21064</a>	2.16.840.1.113883.10.20.5.6.122
id	1..1	SHALL		<a href="#">86-21065</a>	
@nullFlavor	1..1	SHALL		<a href="#">86-22744</a>	2.16.840.1.113883.5.1008 (HL7NullFlavor) = NA
code	1..1	SHALL		<a href="#">86-21044</a>	
@code	1..1	SHALL		<a href="#">86-21066</a>	71861002
@codeSystem	1..1	SHALL		<a href="#">86-28103</a>	2.16.840.1.113883.6.96 (SNOMED CT) = 2.16.840.1.113883.6.96
statusCode	1..1	SHALL		<a href="#">86-21046</a>	
@code	1..1	SHALL		<a href="#">86-28106</a>	2.16.840.1.113883.5.14 (ActStatus) = completed
effectiveTime	1..1	SHALL		<a href="#">86-21047</a>	
low	1..1	SHALL		<a href="#">86-21048</a>	
participant	0..*	MAY		<a href="#">86-21049</a>	
@typeCode	1..1	SHALL		<a href="#">86-21050</a>	LOC
participantRole	1..1	SHALL		<a href="#">86-21051</a>	
@classCode	1..1	SHALL		<a href="#">86-21052</a>	SDLOC
id	1..1	SHALL		<a href="#">86-21053</a>	
@root	1..1	SHALL		<a href="#">86-21054</a>	

@extension	1..1	SHALL		<a href="#">86-21056</a>	
playingEntity	1..1	SHALL		<a href="#">86-21057</a>	
@classCode	1..1	SHALL		<a href="#">86-21058</a>	2.16.840.1.113883.5.41 (EntityClass) = PLC
code	1..1	SHALL		<a href="#">86-21059</a>	2.16.840.1.113883.13.19 (NHSNHealthcareServiceLocation Code)

1. Conforms to Procedure Activity Procedure template (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.14).
2. **SHALL** contain exactly one [1..1] **@classCode**="PROC" (CONF:86-21041).
3. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" (CONF:86-21042).
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:86-28227) such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.22.4.14" (CONF:86-28228).
5. **SHALL** contain exactly one [1..1] **templateId** (CONF:86-21063) such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.5.6.122" (CONF:86-21064).
6. **SHALL** contain exactly one [1..1] **id** (CONF:86-21065).
  - a. This id **SHALL** contain exactly one [1..1] **@nullFlavor**="NA" (CodeSystem: HL7NullFlavor 2.16.840.1.113883.5.1008) (CONF:86-22744).
7. **SHALL** contain exactly one [1..1] **code** (CONF:86-21044).
  - a. This code **SHALL** contain exactly one [1..1] **@code**="71861002" Insertion procedure (CONF:86-21066).
  - b. 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:86-28103).
8. **SHALL** contain exactly one [1..1] **statusCode** (CONF:86-21046).
  - a. This statusCode **SHALL** contain exactly one [1..1] **@code**="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14) (CONF:86-28106).
9. **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:86-21047).
  - a. This effectiveTime **SHALL** contain exactly one [1..1] **low** (CONF:86-21048).
10. **MAY** contain zero or more [0..\*] **participant** (CONF:86-21049).
  - a. The participant, if present, **SHALL** contain exactly one [1..1] **@typeCode**="LOC" (CONF:86-21050).
  - b. The participant, if present, **SHALL** contain exactly one [1..1] **participantRole** (CONF:86-21051).
    - i. This participantRole **SHALL** contain exactly one [1..1] **@classCode**="SDLOC" (CONF:86-21052).
    - ii. This participantRole **SHALL** contain exactly one [1..1] **id** (CONF:86-21053).
      1. This id **SHALL** contain exactly one [1..1] **@root** (CONF:86-21054).

- a. This id/@root **SHALL** contain the facility identifier (CONF:86-21055).
2. This id **SHALL** contain exactly one [1..1] @extension (CONF:86-21056).
- iii. This participantRole **SHALL** contain exactly one [1..1] playingEntity (CONF:86-21057).
  1. This playingEntity **SHALL** contain exactly one [1..1] @classCode="PLC" (CodeSystem: EntityClass 2.16.840.1.113883.5.41 **STATIC**) (CONF:86-21058).
  2. This playingEntity **SHALL** contain exactly one [1..1] code, which **SHALL** be selected from ValueSet [NHSNHealthcareServiceLocationCode](#) 2.16.840.1.113883.13.19 **DYNAMIC** (CONF:86-21059).

**Figure 57: 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>
```

### 3.29 Diabetes Mellitus Observation

[observation: identifier urn:oid:2.16.840.1.113883.10.20.5.6.123 (closed)]

**Table 164: Diabetes Mellitus Observation Contexts**

Contained By:	Contains:
<a href="#">Infection Risk Factors Section in a Procedure Report</a> (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 165: Diabetes Mellitus Observation Constraints Overview**

XPath	Card.	Verb	Data Type	CONF#	Value
observation (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.123)					
@classCode	1..1	SHALL		<a href="#">86-21000</a>	2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		<a href="#">86-21001</a>	2.16.840.1.113883.5.1001 (ActMood) = EVN
@negationInd	1..1	SHALL		<a href="#">86-21002</a>	
templateId	1..1	SHALL		<a href="#">86-28229</a>	
@root	1..1	SHALL		<a href="#">86-28230</a>	2.16.840.1.113883.10.20.22.4.4
templateId	1..1	SHALL		<a href="#">86-21005</a>	
@root	1..1	SHALL		<a href="#">86-21006</a>	2.16.840.1.113883.10.20.5.6.123
id	1..1	SHALL		<a href="#">86-21007</a>	
@nullFlavor	1..1	SHALL		<a href="#">86-22745</a>	NA
code	1..1	SHALL		<a href="#">86-21008</a>	
@code	1..1	SHALL		<a href="#">86-21009</a>	2.16.840.1.113883.5.4 (ActCode) = ASSERTION
statusCode	1..1	SHALL		<a href="#">86-21010</a>	
@code	1..1	SHALL		<a href="#">86-21011</a>	2.16.840.1.113883.5.14 (ActStatus) = completed
value	1..1	SHALL	CD	<a href="#">86-21012</a>	
@code	1..1	SHALL	CS	<a href="#">86-21013</a>	73211009
@codeSystem	1..1	SHALL		<a href="#">86-28354</a>	2.16.840.1.113883.6.96 (SNOMED CT) = 2.16.840.1.113883.6.96

1. Conforms to Problem Observation template (identifier: urn: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:86-21000).
3. **SHALL** contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:86-21001).

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.

4. **SHALL** contain exactly one [1..1] **@negationInd** (CONF:86-21002).
5. **SHALL** contain exactly one [1..1] **templateId** (CONF:86-28229) such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.22.4.4" (CONF:86-28230).
6. **SHALL** contain exactly one [1..1] **templateId** (CONF:86-21005) such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.5.6.123" (CONF:86-21006).
7. **SHALL** contain exactly one [1..1] **id** (CONF:86-21007).
  - a. This **id** **SHALL** contain exactly one [1..1] **@nullFlavor**="NA" (CONF:86-22745).
8. **SHALL** contain exactly one [1..1] **code** (CONF:86-21008).
  - a. This **code** **SHALL** contain exactly one [1..1] **@code**="ASSERTION" Assertion (CodeSystem: ActCode 2.16.840.1.113883.5.4 **STATIC**) (CONF:86-21009).
9. **SHALL** contain exactly one [1..1] **statusCode** (CONF:86-21010).
  - a. This **statusCode** **SHALL** contain exactly one [1..1] **@code**="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14 **STATIC**) (CONF:86-21011).
10. **SHALL** contain exactly one [1..1] **value** with **@xsi:type**="CD" (CONF:86-21012).
  - a. This **value** **SHALL** contain exactly one [1..1] **@code**="73211009 " Diabetes mellitus (CONF:86-21013).
  - b. This **value** **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:86-28354).

**Figure 58: 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>
```

### 3.30 Dialysis Clinic Admission Clinical Statement

[encounter: identifier urn:oid:2.16.840.1.113883.10.20.5.6.124 (closed)]

**Table 166: Dialysis Clinic Admission Clinical Statement Contexts**

Contained By:	Contains:
<a href="#">Details Section in an Evidence of Infection (Dialysis) Report [V3]</a> (required)	

The Dialysis Clinic Admission 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 167: Dialysis Clinic Admission Clinical Statement Constraints Overview**

<b>XPath</b>	<b>Card.</b>	<b>Verb</b>	<b>Data Type</b>	<b>CONF#</b>	<b>Value</b>
encounter (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.124)					
@classCode	1..1	SHALL		<a href="#">86-23263</a>	2.16.840.1.113883.5.6 (HL7ActClass) = ENC
@moodCode	1..1	SHALL		<a href="#">86-23264</a>	2.16.840.1.113883.5.1001 (ActMood) = EVN
templateId	1..1	SHALL		<a href="#">86-23265</a>	
@root	1..1	SHALL		<a href="#">86-23266</a>	2.16.840.1.113883.10.20.5.6.124
id	1..1	SHALL		<a href="#">86-23267</a>	
entryRelationship	1..1	SHALL		<a href="#">86-23269</a>	
@typeCode	1..1	SHALL		<a href="#">86-23272</a>	SAS
@inversionInd	1..1	SHALL		<a href="#">86-23273</a>	
observation	1..1	SHALL		<a href="#">86-23275</a>	
@classCode	1..1	SHALL		<a href="#">86-23276</a>	2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		<a href="#">86-23277</a>	2.16.840.1.113883.5.1001 (ActMood) = EVN
id	1..1	SHALL		<a href="#">86-23278</a>	
@nullFlavor	1..1	SHALL		<a href="#">86-27747</a>	2.16.840.1.113883.5.1008 (HL7NullFlavor) = NA
code	1..1	SHALL		<a href="#">86-23280</a>	
@code	1..1	SHALL		<a href="#">86-23281</a>	ASSERTION
@codeSystem	1..1	SHALL		<a href="#">86-23282</a>	2.16.840.1.113883.5.4 (ActCode) = 2.16.840.1.113883.5.4
statusCode	1..1	SHALL		<a href="#">86-23283</a>	
@code	1..1	SHALL		<a href="#">86-23284</a>	completed
value	1..1	SHALL	CD	<a href="#">86-23285</a>	
@code	1..1	SHALL		<a href="#">86-27748</a>	40733004
@codeSystem	1..1	SHALL		<a href="#">86-27749</a>	2.16.840.1.113883.6.96 (SNOMED CT) = 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:86-23263).
2. **SHALL** contain exactly one [1..1] **@moodCode="EVN"** (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:86-23264).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:86-23265) such that it
  - a. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.5.6.124"** (CONF:86-23266).
4. **SHALL** contain exactly one [1..1] **id** (CONF:86-23267).
  - a. This is the id of the encompassing encounter (CONF:86-23268).
5. **SHALL** contain exactly one [1..1] **entryRelationship** (CONF:86-23269).
  - a. This entryRelationship **SHALL** contain exactly one [1..1] **@typeCode="SAS"** (CONF:86-23272).
  - b. This entryRelationship **SHALL** contain exactly one [1..1] **@inversionInd** (CONF:86-23273).
    - i. 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:86-23274).
  - c. This entryRelationship **SHALL** contain exactly one [1..1] **observation** (CONF:86-23275).
    - i. This observation **SHALL** contain exactly one [1..1] **@classCode="OBS"** (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6) (CONF:86-23276).
    - ii. This observation **SHALL** contain exactly one [1..1] **@moodCode="EVN"** (CodeSystem: ActMood 2.16.840.1.113883.5.1001) (CONF:86-23277).
    - iii. This observation **SHALL** contain exactly one [1..1] **id** (CONF:86-23278).
      1. This id **SHALL** contain exactly one [1..1] **@nullFlavor="NA"** (CodeSystem: HL7NullFlavor 2.16.840.1.113883.5.1008) (CONF:86-27747).
    - iv. This observation **SHALL** contain exactly one [1..1] **code** (CONF:86-23280).
      1. This code **SHALL** contain exactly one [1..1] **@code="ASSERTION"** (CONF:86-23281).
      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:86-23282).
    - v. This observation **SHALL** contain exactly one [1..1] **statusCode** (CONF:86-23283).
      1. This statusCode **SHALL** contain exactly one [1..1] **@code="completed"** (CONF:86-23284).
    - vi. This observation **SHALL** contain exactly one [1..1] **value** with **@xsi:type="CD"** (CONF:86-23285).
      1. This value **SHALL** contain exactly one [1..1] **@code="40733004"** Infection (CONF:86-27748).

2. This value **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:86-27749).

**Figure 59: 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>
```

### 3.31 Dialysis Patient Observation

[observation: identifier urn:oid:2.16.840.1.113883.10.20.5.6.125 (closed)]

**Table 168: Dialysis Patient Observation Contexts**

Contained By:	Contains:
<a href="#">Risk Factors Section in an Evidence of Infection (Dialysis) Report</a> (required)	<a href="#">Transient Patient Observation</a>

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 169: Dialysis Patient Observation Constraints Overview**

XPath	Card.	Verb	Data Type	CONF#	Value
observation (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.125)					
@classCode	1..1	SHALL		<a href="#">86-21747</a>	2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		<a href="#">86-21748</a>	2.16.840.1.113883.5.1001 (ActMood) = EVN
@negationInd	1..1	SHALL		<a href="#">86-21749</a>	false
templateId	1..1	SHALL		<a href="#">86-28231</a>	
@root	1..1	SHALL		<a href="#">86-28232</a>	2.16.840.1.113883.10.20.22.4.4
templateId	1..1	SHALL		<a href="#">86-21752</a>	
@root	1..1	SHALL		<a href="#">86-21753</a>	2.16.840.1.113883.10.20.5.6.125
id	1..1	SHALL		<a href="#">86-21754</a>	
@nullFlavor	1..1	SHALL		<a href="#">86-22747</a>	NA
code	1..1	SHALL		<a href="#">86-21755</a>	
@code	1..1	SHALL		<a href="#">86-21756</a>	2.16.840.1.113883.5.4 (ActCode) = ASSERTION
statusCode	1..1	SHALL		<a href="#">86-21757</a>	
@code	1..1	SHALL		<a href="#">86-21758</a>	2.16.840.1.113883.5.14 (ActStatus) = completed
value	1..1	SHALL	CD	<a href="#">86-21759</a>	
@code	1..1	SHALL		<a href="#">86-21760</a>	2.16.840.1.113883.6.96 (SNOMED CT) = 236435004
entryRelationship	1..1	SHALL		<a href="#">86-21761</a>	
@typeCode	1..1	SHALL		<a href="#">86-21762</a>	2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = COMP
observation	1..1	SHALL		<a href="#">86-21763</a>	<a href="#">Transient Patient Observation (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.169)</a>

1. Conforms to Problem Observation template (identifier: urn: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:86-21747).
3. **SHALL** contain exactly one [1..1] **@moodCode="EVN"** Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:86-21748).
4. **SHALL** contain exactly one [1..1] **@negationInd="false"** (CONF:86-21749).
5. **SHALL** contain exactly one [1..1] **templateId** (CONF:86-28231) such that it
  - a. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.22.4.4"** (CONF:86-28232).
6. **SHALL** contain exactly one [1..1] **templateId** (CONF:86-21752) such that it
  - a. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.5.6.125"** (CONF:86-21753).
7. **SHALL** contain exactly one [1..1] **id** (CONF:86-21754).
  - a. This id **SHALL** contain exactly one [1..1] **@nullFlavor="NA"** (CONF:86-22747).
8. **SHALL** contain exactly one [1..1] **code** (CONF:86-21755).
  - a. This code **SHALL** contain exactly one [1..1] **@code="ASSERTION"** Assertion (CodeSystem: ActCode 2.16.840.1.113883.5.4 **STATIC**) (CONF:86-21756).
9. **SHALL** contain exactly one [1..1] **statusCode** (CONF:86-21757).
  - a. This statusCode **SHALL** contain exactly one [1..1] **@code="completed"** Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14 **STATIC**) (CONF:86-21758).
10. **SHALL** contain exactly one [1..1] **value** with **@xsi:type="CD"** (CONF:86-21759).
  - a. 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:86-21760).
11. **SHALL** contain exactly one [1..1] **entryRelationship** (CONF:86-21761) such that it
  - a. **SHALL** contain exactly one [1..1] **@typeCode="COMP"** Has component (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002 **STATIC**) (CONF:86-21762).
  - b. **SHALL** contain exactly one [1..1] Transient Patient Observation (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.169) (CONF:86-21763).

**Figure 60: 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>
```

### 3.32 Drug-Susceptibility Test Observation

[observation: identifier urn:oid:2.16.840.1.113883.10.20.5.6.126 (closed)]

**Table 170: Drug-Susceptibility Test Observation Contexts**

Contained By:	Contains:
<a href="#">Findings Organizer</a> (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 171: Drug-Susceptibility Test Observation Constraints Overview**

XPath	Card.	Verb	Data Type	CONF#	Value
observation (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.126)					
@classCode	1..1	SHALL		<a href="#">86-21014</a>	2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		<a href="#">86-21015</a>	2.16.840.1.113883.5.1001 (ActMood) = EVN
templateId	1..1	SHALL		<a href="#">86-28233</a>	
@root	1..1	SHALL		<a href="#">86-28234</a>	2.16.840.1.113883.10.20.22.4.2
templateId	1..1	SHALL		<a href="#">86-21018</a>	
@root	1..1	SHALL		<a href="#">86-21019</a>	2.16.840.1.113883.10.20.5.6.126
id	1..1	SHALL		<a href="#">86-21020</a>	
@nullFlavor	1..1	SHALL		<a href="#">86-22748</a>	NA
code	1..1	SHALL		<a href="#">86-21021</a>	2.16.840.1.113883.13.15 (NHSNDrugSusceptibilityTestsCode)
statusCode	1..1	SHALL		<a href="#">86-21023</a>	
@code	1..1	SHALL		<a href="#">86-21024</a>	2.16.840.1.113883.5.14 (ActStatus) = completed
effectiveTime	1..1	SHALL		<a href="#">86-21025</a>	
@nullFlavor	1..1	SHALL		<a href="#">86-22749</a>	NA
interpretationCode	1..1	SHALL		<a href="#">86-21026</a>	

1. Conforms to Result Observation template (identifier: urn: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:86-21014).
3. **SHALL** contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:86-21015).
4. **SHALL** contain exactly one [1..1] templateId (CONF:86-28233) such that it
  - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.4.2" (CONF:86-28234).
5. **SHALL** contain exactly one [1..1] templateId (CONF:86-21018) such that it
  - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.6.126" (CONF:86-21019).

6. **SHALL** contain exactly one [1..1] **id** (CONF:86-21020).
  - a. This **id** **SHALL** contain exactly one [1..1] **@nullFlavor="NA"** (CONF:86-22748).
7. **SHALL** contain exactly one [1..1] **code**, which **SHALL** be selected from ValueSet [NHSNDrugSusceptibilityTestsCode](#) 2.16.840.1.113883.13.15 **DYNAMIC** (CONF:86-21021).
8. **SHALL** contain exactly one [1..1] **statusCode** (CONF:86-21023).
  - a. This **statusCode** **SHALL** contain exactly one [1..1] **@code="completed"** Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14 **STATIC**) (CONF:86-21024).
9. **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:86-21025).
  - a. This **effectiveTime** **SHALL** contain exactly one [1..1] **@nullFlavor="NA"** (CONF:86-22749).
10. **SHALL** contain exactly one [1..1] **interpretationCode** (CONF:86-21026).
  - a. 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:86-21027).



**Table 172: 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 61: 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>
```

### 3.33 Duration of Labor Observation

[observation: identifier urn:oid:2.16.840.1.113883.10.20.5.6.127 (closed)]

**Table 173: Duration of Labor Observation Contexts**

Contained By:	Contains:
<a href="#">Infection Risk Factors Section in a Procedure Report</a> (optional)	

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

**Table 174: Duration of Labor Observation Constraints Overview**

XPath	Card.	Verb	Data Type	CONF#	Value
observation (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.127)					
@classCode	1..1	SHALL		<a href="#">86-22208</a>	2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		<a href="#">86-22209</a>	2.16.840.1.113883.5.1001 (ActMood) = EVN
templateId	1..1	SHALL		<a href="#">86-22210</a>	
@root	1..1	SHALL		<a href="#">86-22211</a>	2.16.840.1.113883.10.20.5.6.127
code	1..1	SHALL		<a href="#">86-22212</a>	
@code	1..1	SHALL		<a href="#">86-22213</a>	289248003
@codeSystem	1..1	SHALL		<a href="#">86-28355</a>	2.16.840.1.113883.6.96 (SNOMED CT) = 2.16.840.1.113883.6.96
statusCode	1..1	SHALL		<a href="#">86-22214</a>	
@code	1..1	SHALL		<a href="#">86-22215</a>	2.16.840.1.113883.5.14 (ActStatus) = completed
value	1..1	SHALL	IVL_TS	<a href="#">86-22216</a>	
width	1..1	SHALL		<a href="#">86-22217</a>	
@value	1..1	SHALL		<a href="#">86-22218</a>	
@unit	1..1	SHALL		<a href="#">86-22219</a>	

1. **SHALL** contain exactly one [1..1] **@classCode="OBS"** Observation (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 **STATIC**) (CONF:86-22208).
2. **SHALL** contain exactly one [1..1] **@moodCode="EVN"** Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:86-22209).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:86-22210) such that it
  - a. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.5.6.127"** (CONF:86-22211).
4. **SHALL** contain exactly one [1..1] **code** (CONF:86-22212).
  - a. This code **SHALL** contain exactly one [1..1] **@code="289248003"** Duration of labor (CONF:86-22213).
  - b. 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:86-28355).

5. **SHALL** contain exactly one [1..1] **statusCode** (CONF:86-22214).
  - a. This **statusCode** **SHALL** contain exactly one [1..1] **@code="completed"** Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14 **STATIC**) (CONF:86-22215).
6. **SHALL** contain exactly one [1..1] **value** with **@xsi:type="IVL\_TS"** (CONF:86-22216).
  - a. This **value** **SHALL** contain exactly one [1..1] **width** (CONF:86-22217).
    - i. This **width** **SHALL** contain exactly one [1..1] **@value** (CONF:86-22218).
    - ii. This **width** **SHALL** contain exactly one [1..1] **@unit** (CONF:86-22219).
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:86-22221).

**Figure 62: 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>
```

### 3.34 Endoscope Used Clinical Statement

[procedure: identifier urn:oid:2.16.840.1.113883.10.20.5.6.128 (closed)]

**Table 175: Endoscope Used Clinical Statement Contexts**

Contained By:	Contains:
<a href="#">Procedure Risk Factors Clinical Statement in a Procedure Report</a> (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 176: Endoscope Used Clinical Statement Constraints Overview**

<b>XPath</b>	<b>Card.</b>	<b>Verb</b>	<b>Data Type</b>	<b>CONF#</b>	<b>Value</b>
procedure (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.128)					
@classCode	1..1	SHALL		<a href="#">86-21992</a>	2.16.840.1.113883.5.6 (HL7ActClass) = PROC
@moodCode	1..1	SHALL		<a href="#">86-21993</a>	2.16.840.1.113883.5.1001 (ActMood) = EVN
@negationInd	1..1	SHALL		<a href="#">86-21994</a>	
templateId	1..1	SHALL		<a href="#">86-28235</a>	
@root	1..1	SHALL		<a href="#">86-28236</a>	2.16.840.1.113883.10.20.22.4.14
templateId	1..1	SHALL		<a href="#">86-22160</a>	
@root	1..1	SHALL		<a href="#">86-22161</a>	2.16.840.1.113883.10.20.5.6.128
id	1..1	SHALL		<a href="#">86-22162</a>	
code	1..1	SHALL		<a href="#">86-21995</a>	
@code	1..1	SHALL		<a href="#">86-21996</a>	423827005
@codeSystem	1..1	SHALL		<a href="#">86-28184</a>	2.16.840.1.113883.6.96 (SNOMED CT) = 2.16.840.1.113883.6.96
statusCode	1..1	SHALL		<a href="#">86-22163</a>	
@code	1..1	SHALL		<a href="#">86-28107</a>	2.16.840.1.113883.5.14 (ActStatus) = completed

1. Conforms to Procedure Activity Procedure template (identifier: urn: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:86-21992).
3. **SHALL** contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:86-21993).
4. **SHALL** contain exactly one [1..1] @negationInd (CONF:86-21994).
5. **SHALL** contain exactly one [1..1] templateId (CONF:86-28235) such that it
  - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.4.14" (CONF:86-28236).
6. **SHALL** contain exactly one [1..1] templateId (CONF:86-22160) such that it
  - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.6.128" (CONF:86-22161).

7. **SHALL** contain exactly one [1..1] **id** (CONF:86-22162).
8. **SHALL** contain exactly one [1..1] **code** (CONF:86-21995).
  - a. This code **SHALL** contain exactly one [1..1] **@code**="423827005" Endoscopy (CONF:86-21996).
  - b. 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:86-28184).
9. **SHALL** contain exactly one [1..1] **statusCode** (CONF:86-22163).
  - a. This statusCode **SHALL** contain exactly one [1..1] **@code**="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14) (CONF:86-28107).

**Figure 63: 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>
```

### 3.35 Findings Organizer

[organizer: identifier urn:oid:2.16.840.1.113883.10.20.5.6.182 (closed)]

**Table 177: Findings Organizer Contexts**

Contained By:	Contains:
<a href="#">Findings Section in an Infection-Type Report</a> (optional) <a href="#">Findings Section in an OPC Report</a> (optional)	<a href="#">Drug-Susceptibility Test Observation</a> <a href="#">Pathogen Identified Observation</a> <a href="#">Pathogen Ranking Observation</a>

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 178: Findings Organizer Constraints Overview**

XPath	Card.	Verb	Data Type	CONF#	Value
organizer (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.182)					
@classCode	1..1	SHALL		<a href="#">86-22239</a>	2.16.840.1.113883.5.6 (HL7ActClass) = CLUSTER
@moodCode	1..1	SHALL		<a href="#">86-22240</a>	2.16.840.1.113883.5.1001 (ActMood) = EVN
templateId	1..1	SHALL		<a href="#">86-22241</a>	
@root	1..1	SHALL		<a href="#">86-22242</a>	2.16.840.1.113883.10.20.5.6.182
id	1..1	SHALL		<a href="#">86-22243</a>	
@nullFlavor	1..1	SHALL		<a href="#">86-22770</a>	NA
statusCode	1..1	SHALL		<a href="#">86-22244</a>	
@code	1..1	SHALL		<a href="#">86-22245</a>	2.16.840.1.113883.5.14 (ActStatus) = completed
component	1..1	SHALL		<a href="#">86-22246</a>	
observation	1..1	SHALL		<a href="#">86-22247</a>	<a href="#">Pathogen Identified Observation (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.145)</a>
component	1..1	SHALL		<a href="#">86-22248</a>	
observation	1..1	SHALL		<a href="#">86-22249</a>	<a href="#">Pathogen Ranking Observation (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.147)</a>
component	0..*	MAY		<a href="#">86-22250</a>	
observation	1..1	SHALL		<a href="#">86-22251</a>	<a href="#">Drug-Susceptibility Test Observation (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.126)</a>

1. **SHALL** contain exactly one [1..1] @classCode="CLUSTER" Cluster (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 **STATIC**) (CONF:86-22239).
2. **SHALL** contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:86-22240).
3. **SHALL** contain exactly one [1..1] templateId (CONF:86-22241) such that it
  - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.6.182" (CONF:86-22242).
4. **SHALL** contain exactly one [1..1] id (CONF:86-22243).

- a. This id **SHALL** contain exactly one [1..1] @nullFlavor="NA" (CONF:86-22770).
- 5. **SHALL** contain exactly one [1..1] statusCode (CONF:86-22244).
  - a. This statusCode **SHALL** contain exactly one [1..1] @code="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14 **STATIC**) (CONF:86-22245).
- 6. **SHALL** contain exactly one [1..1] component (CONF:86-22246) such that it
  - a. **SHALL** contain exactly one [1..1] Pathogen Identified Observation (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.145) (CONF:86-22247).
- 7. **SHALL** contain exactly one [1..1] component (CONF:86-22248) such that it
  - a. **SHALL** contain exactly one [1..1] Pathogen Ranking Observation (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.147) (CONF:86-22249).
- 8. **MAY** contain zero or more [0..\*] component (CONF:86-22250) such that it
  - a. **SHALL** contain exactly one [1..1] Drug-Susceptibility Test Observation (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.126) (CONF:86-22251).

**Figure 64: 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>

```



### 3.36 Guidewire Used Clinical Statement

[procedure: identifier urn:oid:2.16.840.1.113883.10.20.5.6.129 (closed)]

**Table 179: Guidewire Used Clinical Statement Contexts**

Contained By:	Contains:
<a href="#">Reason for Procedure Observation</a> (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 180: Guidewire Used Clinical Statement Constraints Overview**

XPath	Card.	Verb	Data Type	CONF#	Value
procedure (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.129)					
@classCode	1..1	SHALL		<a href="#">86-22151</a>	2.16.840.1.113883.5.6 (HL7ActClass) = PROC
@moodCode	1..1	SHALL		<a href="#">86-22152</a>	2.16.840.1.113883.5.1001 (ActMood) = EVN
@negationInd	1..1	SHALL		<a href="#">86-22153</a>	
templateId	1..1	SHALL		<a href="#">86-28237</a>	
@root	1..1	SHALL		<a href="#">86-28238</a>	2.16.840.1.113883.10.20.22.4.14
templateId	1..1	SHALL		<a href="#">86-22154</a>	
@root	1..1	SHALL		<a href="#">86-22155</a>	2.16.840.1.113883.10.20.5.6.129
id	1..1	SHALL		<a href="#">86-22156</a>	
@nullFlavor	1..1	SHALL		<a href="#">86-22751</a>	NA
code	1..1	SHALL		<a href="#">86-22157</a>	
@code	1..1	SHALL		<a href="#">86-22158</a>	3121-1
@codeSystem	1..1	SHALL		<a href="#">86-28185</a>	2.16.840.1.113883.6.277 (cdcNHSN) = 2.16.840.1.113883.6.277
statusCode	1..1	SHALL		<a href="#">86-22159</a>	
@code	1..1	SHALL		<a href="#">86-28108</a>	2.16.840.1.113883.5.14 (ActStatus) = completed

1. Conforms to Procedure Activity Procedure template (identifier: urn: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:86-22151).
3. **SHALL** contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:86-22152).
4. **SHALL** contain exactly one [1..1] @negationInd (CONF:86-22153).
5. **SHALL** contain exactly one [1..1] templateId (CONF:86-28237) such that it
  - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.4.14" (CONF:86-28238).
6. **SHALL** contain exactly one [1..1] templateId (CONF:86-22154) such that it

- a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.6.129" (CONF:86-22155).
7. **SHALL** contain exactly one [1..1] id (CONF:86-22156).
  - a. This id **SHALL** contain exactly one [1..1] @nullFlavor="NA" (CONF:86-22751).
8. **SHALL** contain exactly one [1..1] code (CONF:86-22157).
  - a. This code **SHALL** contain exactly one [1..1] @code="3121-1" Central line exchanged over guidewire (CONF:86-22158).
  - b. 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:86-28185).
9. **SHALL** contain exactly one [1..1] statusCode (CONF:86-22159).
  - a. This statusCode **SHALL** contain exactly one [1..1] @code="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14) (CONF:86-28108).

**Figure 65: 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>
```

### 3.37 Hand Hygiene Performed Clinical Statement

[procedure: identifier urn:oid:2.16.840.1.113883.10.20.5.6.130 (closed)]

**Table 181: Hand Hygiene Performed Clinical Statement Contexts**

Contained By:	Contains:
<a href="#">Central-Line Insertion Preparation Organizer (V2)</a> (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 182: Hand Hygiene Performed Clinical Statement Constraints Overview**

XPath	Card.	Verb	Data Type	CONF#	Value
procedure (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.130)					
@classCode	1..1	SHALL		<a href="#">86-22141</a>	2.16.840.1.113883.5.6 (HL7ActClass) = PROC
@moodCode	1..1	SHALL		<a href="#">86-22142</a>	2.16.840.1.113883.5.1001 (ActMood) = EVN
@negationInd	1..1	SHALL		<a href="#">86-22143</a>	
templateId	1..1	SHALL		<a href="#">86-28239</a>	
@root	1..1	SHALL		<a href="#">86-28240</a>	2.16.840.1.113883.10.20.22.4.14
templateId	1..1	SHALL		<a href="#">86-22144</a>	
@root	1..1	SHALL		<a href="#">86-22145</a>	2.16.840.1.113883.10.20.5.6.130
id	1..1	SHALL		<a href="#">86-22146</a>	
@nullFlavor	1..1	SHALL		<a href="#">86-22752</a>	NA
code	1..1	SHALL		<a href="#">86-22147</a>	
@code	1..1	SHALL		<a href="#">86-22148</a>	2.16.840.1.113883.6.277 (cdcNHSN) = 3109-6
statusCode	1..1	SHALL		<a href="#">86-22149</a>	
@code	1..1	SHALL		<a href="#">86-22150</a>	2.16.840.1.113883.5.14 (ActStatus) = completed

1. Conforms to Procedure Activity Procedure template (identifier: urn: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:86-22141).
3. **SHALL** contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:86-22142).
4. **SHALL** contain exactly one [1..1] @negationInd (CONF:86-22143).
5. **SHALL** contain exactly one [1..1] templateId (CONF:86-28239) such that it
  - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.4.14" (CONF:86-28240).
6. **SHALL** contain exactly one [1..1] templateId (CONF:86-22144) such that it
  - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.6.130" (CONF:86-22145).
7. **SHALL** contain exactly one [1..1] id (CONF:86-22146).

- a. This id **SHALL** contain exactly one [1..1] @nullFlavor="NA" (CONF:86-22752).
8. **SHALL** contain exactly one [1..1] code (CONF:86-22147).
  - a. This code **SHALL** contain exactly one [1..1] @code="3109-6" Hand hygiene (CodeSystem: cdcNHSN 2.16.840.1.113883.6.277 **STATIC**) (CONF:86-22148).
9. **SHALL** contain exactly one [1..1] statusCode (CONF:86-22149).
  - a. This statusCode **SHALL** contain exactly one [1..1] @code="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14 **STATIC**) (CONF:86-22150).

**Figure 66: 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>
```

### 3.38 Height Observation

[observation: identifier urn:oid:2.16.840.1.113883.10.20.5.6.131 (closed)]

**Table 183: Height Observation Contexts**

Contained By:	Contains:
<a href="#">Infection Risk Factors Section in a Procedure Report</a> (required)	

This observation records a body height.

**Table 184: Height Observation Constraints Overview**

<b>XPath</b>	<b>Card.</b>	<b>Verb</b>	<b>Data Type</b>	<b>CONF#</b>	<b>Value</b>
observation (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.131)					
@classCode	1..1	SHALL		<a href="#">86-19729</a>	2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		<a href="#">86-19730</a>	2.16.840.1.113883.5.1001 (ActMood) = EVN
@negationInd	1..1	SHALL		<a href="#">86-19731</a>	false
templateId	1..1	SHALL		<a href="#">86-28241</a>	
@root	1..1	SHALL		<a href="#">86-28242</a>	2.16.840.1.113883.10.20.22.4.27
templateId	1..1	SHALL		<a href="#">86-19746</a>	
@root	1..1	SHALL		<a href="#">86-27434</a>	2.16.840.1.113883.10.20.5.6.131
id	1..1	SHALL		<a href="#">86-19748</a>	
@nullFlavor	1..1	SHALL		<a href="#">86-22753</a>	NA
code	1..1	SHALL		<a href="#">86-19732</a>	
@code	1..1	SHALL		<a href="#">86-19733</a>	50373000
@codeSystem	1..1	SHALL		<a href="#">86-28191</a>	2.16.840.1.113883.6.96 (SNOMED CT) = 2.16.840.1.113883.6.96
statusCode	1..1	SHALL		<a href="#">86-19734</a>	
@code	1..1	SHALL		<a href="#">86-19735</a>	2.16.840.1.113883.5.14 (ActStatus) = completed
effectiveTime	1..1	SHALL		<a href="#">86-19749</a>	
@nullFlavor	1..1	SHALL		<a href="#">86-22754</a>	NA
value	1..1	SHALL	PQ	<a href="#">86-19736</a>	
@value	1..1	SHALL		<a href="#">86-19750</a>	
@unit	1..1	SHALL		<a href="#">86-19752</a>	

1. Conforms to Vital Sign Observation template (identifier: urn: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:86-19729).
3. **SHALL** contain exactly one [1..1] **@moodCode="EVN"** Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:86-19730).
4. **SHALL** contain exactly one [1..1] **@negationInd="false"** (CONF:86-19731).
5. **SHALL** contain exactly one [1..1] **templateId** (CONF:86-28241) such that it
  - a. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.22.4.27"** (CONF:86-28242).
6. **SHALL** contain exactly one [1..1] **templateId** (CONF:86-19746) such that it
  - a. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.5.6.131"** (CONF:86-27434).
7. **SHALL** contain exactly one [1..1] **id** (CONF:86-19748).
  - a. This id **SHALL** contain exactly one [1..1] **@nullFlavor="NA"** (CONF:86-22753).
8. **SHALL** contain exactly one [1..1] **code** (CONF:86-19732).
  - a. This code **SHALL** contain exactly one [1..1] **@code="50373000"** Body height (CONF:86-19733).
  - b. 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:86-28191).
9. **SHALL** contain exactly one [1..1] **statusCode** (CONF:86-19734).
  - a. This statusCode **SHALL** contain exactly one [1..1] **@code="completed"** Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14 **STATIC**) (CONF:86-19735).
10. **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:86-19749).
  - a. This effectiveTime **SHALL** contain exactly one [1..1] **@nullFlavor="NA"** (CONF:86-22754).
11. **SHALL** contain exactly one [1..1] **value** with **@xsi:type="PQ"** (CONF:86-19736).
  - a. This value **SHALL** contain exactly one [1..1] **@value** (CONF:86-19750).
    - i. The value of **@value** **SHALL** be a non-negative real number representing the body height in terms of the units specified in **@unit** (CONF:86-19751).
  - b. This value **SHALL** contain exactly one [1..1] **@unit** (CONF:86-19752).

**Figure 67: 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>
```

### 3.39 History of Object Presence Observation

[observation: identifier urn:oid:2.16.840.1.113883.10.20.5.6.132 (closed)]

**Table 185: History of Object Presence Observation Contexts**

Contained By:	Contains:
<a href="#">Urinary Catheter Observation</a> (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 186: History of Object Presence Observation Constraints Overview**

<b>XPath</b>	<b>Card.</b>	<b>Verb</b>	<b>Data Type</b>	<b>CONF#</b>	<b>Value</b>
observation (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.132)					
@classCode	1..1	SHALL		<a href="#">86-22196</a>	2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		<a href="#">86-22197</a>	2.16.840.1.113883.5.1001 (ActMood) = EVN
@negationInd	1..1	SHALL		<a href="#">86-22198</a>	
templateId	1..1	SHALL		<a href="#">86-22199</a>	
@root	1..1	SHALL		<a href="#">86-22200</a>	2.16.840.1.113883.10.20.5.6.132
id	1..1	SHALL		<a href="#">86-22201</a>	
@nullFlavor	1..1	SHALL		<a href="#">86-22755</a>	NA
code	1..1	SHALL		<a href="#">86-22202</a>	
@code	1..1	SHALL		<a href="#">86-22203</a>	2.16.840.1.113883.5.4 (ActCode) = ASSERTION
statusCode	1..1	SHALL		<a href="#">86-22204</a>	
@code	1..1	SHALL		<a href="#">86-22205</a>	2.16.840.1.113883.5.14 (ActStatus) = completed
value	1..1	SHALL	CD	<a href="#">86-22206</a>	
@code	1..1	SHALL		<a href="#">86-22207</a>	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:86-22196).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:86-22197).
3. **SHALL** contain exactly one [1..1] **@negationInd** (CONF:86-22198).
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:86-22199) such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.5.6.132" (CONF:86-22200).
5. **SHALL** contain exactly one [1..1] **id** (CONF:86-22201).
  - a. This id **SHALL** contain exactly one [1..1] **@nullFlavor**="NA" (CONF:86-22755).
6. **SHALL** contain exactly one [1..1] **code** (CONF:86-22202).
  - a. This code **SHALL** contain exactly one [1..1] **@code**="ASSERTION" Assertion (CodeSystem: ActCode 2.16.840.1.113883.5.4 **STATIC**) (CONF:86-22203).
7. **SHALL** contain exactly one [1..1] **statusCode** (CONF:86-22204).

- a. This statusCode **SHALL** contain exactly one [1..1] @code="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14 **STATIC**) (CONF:86-22205).
8. **SHALL** contain exactly one [1..1] value with @xsi:type="CD" (CONF:86-22206).
  - a. 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:86-22207).

**Figure 68: 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>
```

### 3.40 Hospital Admission Clinical Statement

[act: identifier urn:oid:2.16.840.1.113883.10.20.5.6.133 (closed)]

**Table 187: Hospital Admission Clinical Statement Contexts**

Contained By:	Contains:
<a href="#">Details Section in an Evidence of Infection (Dialysis) Report [V3]</a> (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 188: Hospital Admission Clinical Statement Constraints Overview**

XPath	Card.	Verb	Data Type	CONF#	Value
act (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.133)					
@nullFlavor	0..1	MAY		<a href="#">86-22185</a>	UNK
@classCode	1..1	SHALL		<a href="#">86-22187</a>	2.16.840.1.113883.5.6 (HL7ActClass) = ACT
@moodCode	1..1	SHALL		<a href="#">86-22188</a>	2.16.840.1.113883.5.1001 (ActMood) = EVN
@negationInd	0..1	MAY		<a href="#">86-22189</a>	
templateId	1..1	SHALL		<a href="#">86-22191</a>	
@root	1..1	SHALL		<a href="#">86-22192</a>	2.16.840.1.113883.10.20.5.6.133
id	1..1	SHALL		<a href="#">86-22193</a>	
@nullFlavor	1..1	SHALL		<a href="#">86-22756</a>	NA
code	1..1	SHALL		<a href="#">86-22194</a>	
@code	1..1	SHALL		<a href="#">86-22195</a>	2.16.840.1.113883.6.96 (SNOMED CT) = 32485007

- MAY** contain zero or one [0..1] **@nullFlavor**="UNK" (CONF:86-22185).
  - If it is not known whether the outpatient was hospitalized, the value of act/**@nullFlavor** **SHALL** be UNK (CONF:86-22186).
- SHALL** contain exactly one [1..1] **@classCode**="ACT" (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 **STATIC**) (CONF:86-22187).
- SHALL** contain exactly one [1..1] **@moodCode**="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:86-22188).
- MAY** contain zero or one [0..1] **@negationInd** (CONF:86-22189).
  - 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:86-22190).
- SHALL** contain exactly one [1..1] **templateId** (CONF:86-22191) such that it
  - SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.5.6.133" (CONF:86-22192).
- SHALL** contain exactly one [1..1] **id** (CONF:86-22193).
  - This id **SHALL** contain exactly one [1..1] **@nullFlavor**="NA" (CONF:86-22756).
- SHALL** contain exactly one [1..1] **code** (CONF:86-22194).
  - This code **SHALL** contain exactly one [1..1] **@code**="32485007" Hospital Admission (CodeSystem: SNOMED CT 2.16.840.1.113883.6.96 **STATIC**) (CONF:86-22195).

**Figure 69: 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>
```

### 3.41 Imputability Observation

[observation: identifier urn:oid:2.16.840.1.113883.10.20.5.6.134 (closed)]

**Table 189: Imputability Observation Contexts**

Contained By:	Contains:
<a href="#">Suspected Source Observation</a> (required)	

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

**Table 190: Imputability Observation Constraints Overview**

XPath	Card.	Verb	Data Type	CONF#	Value
observation (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.134)					
@classCode	1..1	SHALL		<a href="#">86-21796</a>	2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		<a href="#">86-21797</a>	2.16.840.1.113883.5.1001 (ActMood) = EVN
@negationInd	1..1	SHALL		<a href="#">86-21798</a>	
templateId	1..1	SHALL		<a href="#">86-28243</a>	
@root	1..1	SHALL		<a href="#">86-28244</a>	2.16.840.1.113883.10.20.22.4.4
templateId	1..1	SHALL		<a href="#">86-21801</a>	
@root	1..1	SHALL		<a href="#">86-21802</a>	2.16.840.1.113883.10.20.5.6.134
id	1..1	SHALL		<a href="#">86-21803</a>	
@nullFlavor	1..1	SHALL		<a href="#">86-22757</a>	
code	1..1	SHALL		<a href="#">86-21804</a>	
statusCode	1..1	SHALL		<a href="#">86-21806</a>	
@code	1..1	SHALL		<a href="#">86-21807</a>	2.16.840.1.113883.5.14 (ActStatus) = completed
value	1..1	SHALL		<a href="#">86-21808</a>	

1. Conforms to Problem Observation template (identifier: urn: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:86-21796).
3. **SHALL** contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:86-21797).
4. **SHALL** contain exactly one [1..1] @negationInd (CONF:86-21798).
5. **SHALL** contain exactly one [1..1] templateId (CONF:86-28243) such that it
  - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.4.4" (CONF:86-28244).
6. **SHALL** contain exactly one [1..1] templateId (CONF:86-21801) such that it
  - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.6.134" (CONF:86-21802).
7. **SHALL** contain exactly one [1..1] id (CONF:86-21803).

- a. This id **SHALL** contain exactly one [1..1] **@nullFlavor** (CONF:86-22757).
8. **SHALL** contain exactly one [1..1] **code** (CONF:86-21804).
  - a. 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:86-21805).
9. **SHALL** contain exactly one [1..1] **statusCode** (CONF:86-21806).
  - a. This statusCode **SHALL** contain exactly one [1..1] **@code="completed"** Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14 **STATIC**) (CONF:86-21807).
10. **SHALL** contain exactly one [1..1] **value** (CONF:86-21808).
  - a. In an Evidence of Infection (Dialysis) Report, (CONF:86-21809).
    - i. The value of the observation's **@negationInd** **SHALL** be 'false' (CONF:86-21810).
    - ii. The value of **@code** **SHALL** be 60022001 Possible 2.16.840.1.113883.6.96 SNOMED CT (CONF:86-21811).

**Figure 70: 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>
```

### 3.42 Infection Condition Observation

[observation: identifier urn:oid:2.16.840.1.113883.10.20.5.6.135 (closed)]

**Table 191: Infection Condition Observation Contexts**

Contained By:	Contains:
<a href="#">Infection-Type Observation</a> (optional)	
<a href="#">Surgical Site Infection Observation</a> (required)	

This observation records the infection condition being reported.

**Table 192: Infection Condition Observation Constraints Overview**

XPath	Card.	Verb	Data Type	CONF#	Value
observation (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.135)					
@classCode	1..1	SHALL		<a href="#">86-19883</a>	2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		<a href="#">86-19884</a>	2.16.840.1.113883.5.1001 (ActMood) = EVN
@negationInd	1..1	SHALL		<a href="#">86-19885</a>	false
templateId	1..1	SHALL		<a href="#">86-28245</a>	
@root	1..1	SHALL		<a href="#">86-28246</a>	2.16.840.1.113883.10.20.22.4.4
templateId	1..1	SHALL		<a href="#">86-19888</a>	
@root	1..1	SHALL		<a href="#">86-19889</a>	2.16.840.1.113883.10.20.5.6.135
id	1..1	SHALL		<a href="#">86-19890</a>	
@nullFlavor	1..1	SHALL		<a href="#">86-22758</a>	NA
code	1..1	SHALL		<a href="#">86-19891</a>	
@code	1..1	SHALL		<a href="#">86-19892</a>	2.16.840.1.113883.5.4 (ActCode) = ASSERTION
statusCode	1..1	SHALL		<a href="#">86-19893</a>	
@code	1..1	SHALL		<a href="#">86-19894</a>	2.16.840.1.113883.5.14 (ActStatus) = completed
value	1..1	SHALL	CD	<a href="#">86-19895</a>	2.16.840.1.114222.4.11.3196 (NHSNInfectionConditionCode)

1. Conforms to Problem Observation template (identifier: urn: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:86-19883).
3. **SHALL** contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:86-19884).
4. **SHALL** contain exactly one [1..1] @negationInd="false" (CONF:86-19885).
5. **SHALL** contain exactly one [1..1] templateId (CONF:86-28245) such that it
  - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.4.4" (CONF:86-28246).
6. **SHALL** contain exactly one [1..1] templateId (CONF:86-19888) such that it

- a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.5.6.135" (CONF:86-19889).
7. **SHALL** contain exactly one [1..1] **id** (CONF:86-19890).
  - a. This **id** **SHALL** contain exactly one [1..1] **@nullFlavor**="NA" (CONF:86-22758).
8. **SHALL** contain exactly one [1..1] **code** (CONF:86-19891).
  - a. This **code** **SHALL** contain exactly one [1..1] **@code**="ASSERTION" Assertion (CodeSystem: ActCode 2.16.840.1.113883.5.4 **STATIC**) (CONF:86-19892).
9. **SHALL** contain exactly one [1..1] **statusCode** (CONF:86-19893).
  - a. This **statusCode** **SHALL** contain exactly one [1..1] **@code**="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14 **STATIC**) (CONF:86-19894).
10. **SHALL** contain exactly one [1..1] **value** with **@xsi:type**="CD", where the code **SHALL** be selected from ValueSet [NHSNInfectionConditionCode](#) 2.16.840.1.114222.4.11.3196 **DYNAMIC** (CONF:86-19895).



**Table 193: 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 71: 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>
```

### 3.43 Infection Contributed to Death Observation

[observation: identifier urn:oid:2.16.840.1.113883.10.20.5.6.136 (closed)]

**Table 194: Infection Contributed to Death Observation Contexts**

Contained By:	Contains:
<a href="#">Death Observation</a> (optional)	

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

**Table 195: Infection Contributed to Death Observation Constraints Overview**

XPath	Card.	Verb	Data Type	CONF#	Value
observation (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.136)					
@classCode	1..1	SHALL		<a href="#">86-22164</a>	2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		<a href="#">86-22165</a>	2.16.840.1.113883.5.1001 (ActMood) = EVN
templateId	1..1	SHALL		<a href="#">86-22166</a>	
@root	1..1	SHALL		<a href="#">86-22167</a>	2.16.840.1.113883.10.20.5.6.136
id	1..1	SHALL		<a href="#">86-22168</a>	
code	1..1	SHALL		<a href="#">86-22170</a>	
@code	1..1	SHALL	CS	<a href="#">86-22174</a>	2.16.840.1.113883.5.4 (ActCode) = ASSERTION
statusCode	1..1	SHALL		<a href="#">86-22172</a>	
@code	1..1	SHALL		<a href="#">86-22173</a>	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:86-22164).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:86-22165).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:86-22166) such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.5.6.136" (CONF:86-22167).
4. **SHALL** contain exactly one [1..1] **id** (CONF:86-22168).
  - a. 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:86-22169).
5. **SHALL** contain exactly one [1..1] **code** (CONF:86-22170).
  - a. This code **SHALL** contain exactly one [1..1] **@code**="ASSERTION" Assertion (CodeSystem: ActCode 2.16.840.1.113883.5.4) (CONF:86-22174).
6. **SHALL** contain exactly one [1..1] **statusCode** (CONF:86-22172).
  - a. This statusCode **SHALL** contain exactly one [1..1] **@code**="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14 **STATIC**) (CONF:86-22173).

**Figure 72: 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>
```

### 3.44 Infection First Reported Source Observation

[observation: identifier urn:oid:2.16.840.1.113883.10.20.5.6.207 (closed)]

**Table 196: Infection First Reported Source Observation Contexts**

Contained By:	Contains:
<a href="#">Surgical Site Infection Details Section in an OPC Report</a> (required)	

This template represents how the infection was first reported.

**Table 197: Infection First Reported Source Observation Constraints Overview**

XPath	Card.	Verb	Data Type	CONF#	Value
observation (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.207)					
@classCode	1..1	SHALL		<a href="#">1113-40</a>	OBS
@moodCode	1..1	SHALL		<a href="#">1113-41</a>	EVN
templateId	1..1	SHALL		<a href="#">1113-42</a>	
@root	1..1	SHALL		<a href="#">1113-43</a>	2.16.840.1.113883.10.20.5.6.207
id	1..1	SHALL		<a href="#">1113-21720</a>	
@nullFlavor	1..1	SHALL		<a href="#">1113-21721</a>	NA
code	1..1	SHALL		<a href="#">1113-44</a>	
@code	1..1	SHALL		<a href="#">1113-45</a>	1656-8
@codeSystem	1..1	SHALL		<a href="#">1113-46</a>	2.16.840.1.113883.6.277 (cdcNHSN) = 2.16.840.1.113883.6.277
statusCode	1..1	SHALL		<a href="#">1113-21722</a>	
@code	1..1	SHALL		<a href="#">1113-21723</a>	2.16.840.1.113883.5.14 (ActStatus) = completed
value	1..1	SHALL	CD	<a href="#">1113-47</a>	2.16.840.1.114222.4.11.7215 (NHSNInfectionFirstReportedSource)

1. **SHALL** contain exactly one [1..1] **@classCode**="OBS" (CONF:1113-40).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" (CONF:1113-41).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:1113-42) such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.5.6.207" (CONF:1113-43).
4. **SHALL** contain exactly one [1..1] **id** (CONF:1113-21720).
  - a. This id **SHALL** contain exactly one [1..1] **@nullFlavor**="NA" (CONF:1113-21721).
5. **SHALL** contain exactly one [1..1] **code** (CONF:1113-44).
  - a. This code **SHALL** contain exactly one [1..1] **@code**="1656-8" Infection first reported source (CONF:1113-45).
  - b. 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:1113-46).
6. **SHALL** contain exactly one [1..1] **statusCode** (CONF:1113-21722).

- a. This statusCode **SHALL** contain exactly one [1..1] @code="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14 **STATIC**) (CONF:1113-21723).
7. **SHALL** contain exactly one [1..1] value with @xsi:type="CD", where the code **SHALL** be selected from ValueSet [NHSNInfectionFirstReportedSource](#) 2.16.840.1.114222.4.11.7215 (CONF:1113-47).

**Table 198: NHSNInfectionFirstReportedSource**

Value Set: NHSNInfectionFirstReportedSource 2.16.840.1.114222.4.11.7215			
Code System: SNOMED CT 2.16.840.1.113883.6.96 or cdcNHSN 2.16.840.1.113883.6.277			
Codes describing how an infection was first reported.			
Code	Code System	Code System OID	Print Name
304292004	SNOMED CT	2.16.840.1.113883.6.96	Surgeon
1651-9	cdcNHSN	2.16.840.1.113883.6.277	Attending physician other than surgeon
1652-7	cdcNHSN	2.16.840.1.113883.6.277	Admitting inpatient facility
1653-5	cdcNHSN	2.16.840.1.113883.6.277	Routine follow-up at outpatient facility
1654-3	cdcNHSN	2.16.840.1.113883.6.277	Patient or family member

**Figure 73: Infection First Reported Source Observation Example**

```

<!-- Infection First Reported Source Observation -->
<observation classCode="OBS" moodCode="EVN">
  <!-- Infection First Reported Source Observation templateId -->
  <templateId root="2.16.840.1.113883.10.20.5.6.207" />
  <id nullFlavor="NA"/>
  <code code="1656-8"
    displayName="Infection first reported source"
    codeSystem="2.16.840.1.113883.6.277" />
  <statusCode code="completed" />
  <value xsi:type="CD"
    codeSystem="2.16.840.1.113883.6.277"
    codeSystemName="cdcNHSN"
    code="1651-9"
    displayName="Attending physician other than surgeon"/>
</observation>

```

### 3.45 Infection Indicator Organizer (V2)

[organizer: identifier urn:hl7ii:2.16.840.1.113883.10.20.5.6.181:2014-12-01  
(closed) ]

**Table 199: Infection Indicator Organizer (V2) Contexts**

Contained By:	Contains:
<a href="#">Details Section in an Evidence of Infection (Dialysis) Report (V3)</a> (required)	<a href="#">IV Antibiotic Start Clinical Statement</a> <a href="#">IV Antifungal Start Clinical Statement</a> <a href="#">Positive Blood Culture Observation (V2)</a> <a href="#">Pus, Redness, or Increased Swelling Observation</a>

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 200: Infection Indicator Organizer (V2) Constraints Overview**

XPath	Card.	Verb	Data Type	CONF#	Value
organizer (identifier: urn:hl7ii:2.16.840.1.113883.10.20.5.6.181:2014-12-01)					
@classCode	1..1	SHALL		<a href="#">1129-22222</a>	2.16.840.1.113883.5.6 (HL7ActClass) = CLUSTER
@moodCode	1..1	SHALL		<a href="#">1129-22223</a>	2.16.840.1.113883.5.1001 (ActMood) = EVN
templateId	1..1	SHALL		<a href="#">1129-22224</a>	
@root	1..1	SHALL		<a href="#">1129-22225</a>	2.16.840.1.113883.10.20.5.6.181
@extension	1..1	SHALL		<a href="#">1129-30287</a>	2014-12-01
id	1..1	SHALL		<a href="#">1129-22226</a>	
@nullFlavor	1..1	SHALL		<a href="#">1129-22771</a>	NA
statusCode	1..1	SHALL		<a href="#">1129-22227</a>	
@code	1..1	SHALL		<a href="#">1129-22228</a>	2.16.840.1.113883.5.14 (ActStatus) = completed
effectiveTime	1..1	SHALL		<a href="#">1129-22229</a>	
low	1..1	SHALL		<a href="#">1129-22230</a>	
component	1..1	SHALL		<a href="#">1129-22231</a>	
observation	1..1	SHALL		<a href="#">1129-22232</a>	<a href="#">Pus, Redness, or Increased Swelling Observation (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.157)</a>
component	1..1	SHALL		<a href="#">1129-22233</a>	
substanceAdministration	1..1	SHALL		<a href="#">1129-22234</a>	<a href="#">IV Antibiotic Start Clinical Statement (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.140)</a>
component	1..1	SHALL		<a href="#">1129-22235</a>	
substanceAdministration	1..1	SHALL		<a href="#">1129-22236</a>	<a href="#">IV Antifungal Start Clinical Statement (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.141)</a>
component	1..1	SHALL		<a href="#">1129-22237</a>	
observation	1..1	SHALL		<a href="#">1129-30429</a>	<a href="#">Positive Blood Culture Observation (V2) (identifier:</a>



					<a href="urn:hl7ii:2.16.840.1.113883.10.20.5.6.149:2014-12-01">urn:hl7ii:2.16.840.1.113883.10.20.5.6.149:2014-12-01</a>
--	--	--	--	--	---

1. **SHALL** contain exactly one [1..1] **@classCode="CLUSTER"** Cluster (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 **STATIC**) (CONF:1129-22222).
2. **SHALL** contain exactly one [1..1] **@moodCode="EVN"** Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:1129-22223).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:1129-22224) such that it
  - a. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.5.6.181"** (CONF:1129-22225).
  - b. **SHALL** contain exactly one [1..1] **@extension="2014-12-01"** (CONF:1129-30287).
4. **SHALL** contain exactly one [1..1] **id** (CONF:1129-22226).
  - a. This id **SHALL** contain exactly one [1..1] **@nullFlavor="NA"** (CONF:1129-22771).
5. **SHALL** contain exactly one [1..1] **statusCode** (CONF:1129-22227).
  - a. This statusCode **SHALL** contain exactly one [1..1] **@code="completed"** Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14 **STATIC**) (CONF:1129-22228).
6. **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:1129-22229).
  - a. This effectiveTime **SHALL** contain exactly one [1..1] **low** (CONF:1129-22230).
7. **SHALL** contain exactly one [1..1] **component** (CONF:1129-22231) such that it
  - a. **SHALL** contain exactly one [1..1] [Pus, Redness, or Increased Swelling Observation](#) (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.157) (CONF:1129-22232).
8. **SHALL** contain exactly one [1..1] **component** (CONF:1129-22233) such that it
  - a. **SHALL** contain exactly one [1..1] [IV Antibiotic Start Clinical Statement](#) (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.140) (CONF:1129-22234).
9. **SHALL** contain exactly one [1..1] **component** (CONF:1129-22235) such that it
  - a. **SHALL** contain exactly one [1..1] [IV Antifungal Start Clinical Statement](#) (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.141) (CONF:1129-22236).
10. **SHALL** contain exactly one [1..1] **component** (CONF:1129-22237) such that it
  - a. **SHALL** contain exactly one [1..1] [Positive Blood Culture Observation \(V2\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.5.6.149:2014-12-01) (CONF:1129-30429).

**Figure 74: Infection Indicator Organizer (V2) Example**

```
<organizer classCode="CLUSTER" moodCode="EVN">
  <templateId root="2.16.840.1.113883.10.20.5.6.181"
    extension="2014-12-01" />
  <id nullFlavor="NA" />
  <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 (V2) templateId -->
      <templateId root="2.16.840.1.113883.10.20.5.6.149"
        extension="2014-12-01" />
      ...
    </observation>
  </component>
  ...
</organizer>
```

### 3.46 Infection Present at the Time of Surgery Observation

[observation: identifier urn:oid:2.16.840.1.113883.10.20.5.6.205 (closed)]

Table 201: Infection Present at the Time of Surgery Observation Contexts

Contained By:	Contains:
<a href="#">Infection Details Section in an SSI Report (V2)</a> (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 202: Infection Present at the Time of Surgery Observation Constraints Overview**

XPath	Card.	Verb	Data Type	CONF#	Value
observation (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.205)					
@classCode	1..1	SHALL		<a href="#">1101-30257</a>	2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		<a href="#">1101-30258</a>	EVN
@negationInd	1..1	SHALL		<a href="#">1101-30259</a>	
templateId	1..1	SHALL		<a href="#">1101-30299</a>	
@root	1..1	SHALL		<a href="#">1101-30300</a>	2.16.840.1.113883.10.20.22.4.4
templateId	1..1	SHALL		<a href="#">1101-30261</a>	
@root	1..1	SHALL		<a href="#">1101-30262</a>	2.16.840.1.113883.10.20.5.6.205
id	1..1	SHALL		<a href="#">1101-30263</a>	
@nullFlavor	1..1	SHALL		<a href="#">1101-30264</a>	NA
code	1..1	SHALL		<a href="#">1101-30265</a>	
@code	1..1	SHALL		<a href="#">1101-30266</a>	ASSERTION
@codeSystem	1..1	SHALL		<a href="#">1101-30267</a>	2.16.840.1.113883.5.4 (ActCode) = 2.16.840.1.113883.5.4
statusCode	1..1	SHALL		<a href="#">1101-30268</a>	
@code	1..1	SHALL		<a href="#">1101-30269</a>	2.16.840.1.113883.5.14 (ActStatus) = completed
value	1..1	SHALL	CD	<a href="#">1101-30270</a>	
@code	1..1	SHALL		<a href="#">1101-30271</a>	2.16.840.1.113883.6.277 (cdcNHSN) = 1237-7
@codeSystem	1..1	SHALL		<a href="#">1101-30272</a>	2.16.840.1.113883.6.277 (cdcNHSN) = 2.16.840.1.113883.6.277

1. Conforms to Problem Observation template (identifier: urn: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:1101-30257).
3. **SHALL** contain exactly one [1..1] @moodCode="EVN" (CONF:1101-30258).
4. **SHALL** contain exactly one [1..1] @negationInd (CONF:1101-30259).

- a. 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:1101-30260).
5. **SHALL** contain exactly one [1..1] `templateId` (CONF:1101-30299) such that it
  - a. **SHALL** contain exactly one [1..1] `@root="2.16.840.1.113883.10.20.22.4.4"` (CONF:1101-30300).
6. **SHALL** contain exactly one [1..1] `templateId` (CONF:1101-30261) such that it
  - a. **SHALL** contain exactly one [1..1] `@root="2.16.840.1.113883.10.20.5.6.205"` (CONF:1101-30262).
7. **SHALL** contain exactly one [1..1] `id` (CONF:1101-30263).
  - a. This `id` **SHALL** contain exactly one [1..1] `@nullFlavor="NA"` (CONF:1101-30264).
8. **SHALL** contain exactly one [1..1] `code` (CONF:1101-30265).
  - a. This `code` **SHALL** contain exactly one [1..1] `@code="ASSERTION"` (CONF:1101-30266).
  - b. 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:1101-30267).
9. **SHALL** contain exactly one [1..1] `statusCode` (CONF:1101-30268).
  - a. This `statusCode` **SHALL** contain exactly one [1..1] `@code="completed"` (CodeSystem: ActStatus 2.16.840.1.113883.5.14) (CONF:1101-30269).
10. **SHALL** contain exactly one [1..1] `value` with `@xsi:type="CD"` (CONF:1101-30270).
  - a. 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:1101-30271).
  - b. 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:1101-30272).

**Figure 75: 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>
```

### 3.47 Infection Risk Factors Measurement Observation

[observation: identifier urn:oid:2.16.840.1.113883.10.20.5.6.137 (closed)]

**Table 203: Infection Risk Factors Measurement Observation Contexts**

Contained By:	Contains:
<a href="#">Infection Risk Factors Section in a BSI Report</a> (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 204: Infection Risk Factors Measurement Observation Constraints Overview**

XPath	Card.	Verb	Data Type	CONF#	Value
observation (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.137)					
@classCode	1..1	SHALL		<a href="#">86-19769</a>	2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		<a href="#">86-19770</a>	2.16.840.1.113883.5.1001 (ActMood) = EVN
@negationInd	1..1	SHALL		<a href="#">86-19771</a>	false
templateId	1..1	SHALL		<a href="#">86-28247</a>	
@root	1..1	SHALL		<a href="#">86-28248</a>	2.16.840.1.113883.10.20.22.4.27
templateId	1..1	SHALL		<a href="#">86-19780</a>	
@root	1..1	SHALL		<a href="#">86-19781</a>	2.16.840.1.113883.10.20.5.6.137
id	1..1	SHALL		<a href="#">86-19782</a>	
@nullFlavor	1..1	SHALL		<a href="#">86-22759</a>	NA
code	1..1	SHALL		<a href="#">86-19772</a>	
@code	1..1	SHALL		<a href="#">86-19773</a>	364589006
@codeSystem	1..1	SHALL		<a href="#">86-28104</a>	2.16.840.1.113883.6.96 (SNOMED CT) = 2.16.840.1.113883.6.96
statusCode	1..1	SHALL		<a href="#">86-19774</a>	
@code	1..1	SHALL		<a href="#">86-19775</a>	2.16.840.1.113883.5.14 (ActStatus) = completed
effectiveTime	1..1	SHALL		<a href="#">86-19899</a>	
@nullFlavor	1..1	SHALL		<a href="#">86-22760</a>	NA
value	1..1	SHALL	PQ	<a href="#">86-19776</a>	

1. Conforms to Vital Sign Observation template (identifier: urn: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:86-19769).
3. **SHALL** contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:86-19770).

4. **SHALL** contain exactly one [1..1] **@negationInd="false"** (CONF:86-19771).
5. **SHALL** contain exactly one [1..1] **templateId** (CONF:86-28247) such that it
  - a. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.22.4.27"** (CONF:86-28248).
6. **SHALL** contain exactly one [1..1] **templateId** (CONF:86-19780) such that it
  - a. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.5.6.137"** (CONF:86-19781).
7. **SHALL** contain exactly one [1..1] **id** (CONF:86-19782).
  - a. This **id** **SHALL** contain exactly one [1..1] **@nullFlavor="NA"** (CONF:86-22759).
8. **SHALL** contain exactly one [1..1] **code** (CONF:86-19772).
  - a. This **code** **SHALL** contain exactly one [1..1] **@code="364589006"** Birth weight (CONF:86-19773).
  - b. 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:86-28104).
9. **SHALL** contain exactly one [1..1] **statusCode** (CONF:86-19774).
  - a. This **statusCode** **SHALL** contain exactly one [1..1] **@code="completed"** Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14 **STATIC**) (CONF:86-19775).
10. **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:86-19899).
  - a. This **effectiveTime** **SHALL** contain exactly one [1..1] **@nullFlavor="NA"** (CONF:86-22760).
11. **SHALL** contain exactly one [1..1] **value** with **@xsi:type="PQ"** (CONF:86-19776).

**Figure 76: 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>
```



### 3.48 Infection Risk Factors Observation

[observation: identifier urn:oid:2.16.840.1.113883.10.20.5.6.138 (closed)]

**Table 205: Infection Risk Factors Observation Contexts**

Contained By:	Contains:
<a href="#">Infection Risk Factors Section in a BSI Report</a> (required)	<a href="#">Device Insertion Time and Location Procedure</a>

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 206: Infection Risk Factors Observation Constraints Overview**

XPath	Card.	Verb	Data Type	CONF#	Value
observation (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.138)					
@classCode	1..1	SHALL		<a href="#">86-19800</a>	2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		<a href="#">86-19801</a>	2.16.840.1.113883.5.1001 (ActMood) = EVN
@negationInd	1..1	SHALL		<a href="#">86-19802</a>	
templateId	1..1	SHALL		<a href="#">86-28249</a>	
@root	1..1	SHALL		<a href="#">86-28250</a>	2.16.840.1.113883.10.20.22.4.4
templateId	1..1	SHALL		<a href="#">86-19814</a>	
@root	1..1	SHALL		<a href="#">86-19816</a>	2.16.840.1.113883.10.20.5.6.138
id	1..1	SHALL		<a href="#">86-19817</a>	
@nullFlavor	1..1	SHALL		<a href="#">86-22761</a>	NA
code	1..1	SHALL		<a href="#">86-19803</a>	
@code	1..1	SHALL		<a href="#">86-19804</a>	2.16.840.1.113883.5.4 (ActCode) = ASSERTION
statusCode	1..1	SHALL		<a href="#">86-19805</a>	
@code	1..1	SHALL		<a href="#">86-19806</a>	2.16.840.1.113883.5.14 (ActStatus) = completed
value	1..1	SHALL	CD	<a href="#">86-19807</a>	2.16.840.1.113883.13.6 (NHSNInfectionRiskFactorsCode)
entryRelationship	0..1	MAY		<a href="#">86-19809</a>	
@typeCode	1..1	SHALL		<a href="#">86-19810</a>	REFR
@inversionInd	1..1	SHALL		<a href="#">86-19811</a>	true
procedure	1..1	SHALL		<a href="#">86-19812</a>	<a href="#">Device Insertion Time and Location Procedure (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.122)</a>

1. Conforms to Problem Observation template (identifier: urn: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:86-19800).
3. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:86-19801).
4. **SHALL** contain exactly one [1..1] **@negationInd** (CONF:86-19802).
5. **SHALL** contain exactly one [1..1] **templateId** (CONF:86-28249) such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.22.4.4" (CONF:86-28250).
6. **SHALL** contain exactly one [1..1] **templateId** (CONF:86-19814) such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.5.6.138" (CONF:86-19816).
7. **SHALL** contain exactly one [1..1] **id** (CONF:86-19817).
  - a. This id **SHALL** contain exactly one [1..1] **@nullFlavor**="NA" (CONF:86-22761).
8. **SHALL** contain exactly one [1..1] **code** (CONF:86-19803).
  - a. This code **SHALL** contain exactly one [1..1] **@code**="ASSERTION" Assertion (CodeSystem: ActCode 2.16.840.1.113883.5.4 **STATIC**) (CONF:86-19804).
9. **SHALL** contain exactly one [1..1] **statusCode** (CONF:86-19805).
  - a. This statusCode **SHALL** contain exactly one [1..1] **@code**="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14 **STATIC**) (CONF:86-19806).
10. **SHALL** contain exactly one [1..1] **value** with **@xsi:type**="CD", where the code **SHALL** be selected from ValueSet [NHSNInfectionRiskFactorsCode](#) 2.16.840.1.113883.13.6 **STATIC** 2012-08-09 (CONF:86-19807).
11. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:86-19809).
  - a. The entryRelationship, if present, **SHALL** contain exactly one [1..1] **@typeCode**="REFR" (CONF:86-19810).
  - b. The entryRelationship, if present, **SHALL** contain exactly one [1..1] **@inversionInd**="true" (CONF:86-19811).
  - c. The entryRelationship, if present, **SHALL** contain exactly one [1..1] [Device Insertion Time and Location Procedure](#) (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.122) (CONF:86-19812).

**Table 207: 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 77: 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"/>

  <entryRelationship typeCode="REFR" inversionInd="true">
    <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" />
      ...
    </procedure>
  </entryRelationship>
</observation>
```

### 3.49 Infection-Type Observation

[observation: identifier urn:oid:2.16.840.1.113883.10.20.5.6.139 (closed)]

**Table 208: Infection-Type Observation Contexts**

Contained By:	Contains:
<a href="#">Infection Details Section in a BSI Report</a> (required) <a href="#">Infection Details Section in a UTI Report</a> (required) <a href="#">Infection Details Section in an SSI Report (V2)</a> (required)	<a href="#">Bloodstream Infection Evidence Type Observation</a> <a href="#">Criteria of Diagnosis Organizer</a> <a href="#">Infection Condition Observation</a> <a href="#">Occasion of HAI Detection Observation</a> <a href="#">Secondary Bloodstream Infection Observation</a>

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 209: Infection-Type Observation Constraints Overview**

XPath	Card.	Verb	Data Type	CONF#	Value
observation (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.139)					
@classCode	1..1	SHALL		<a href="#">86-21181</a>	2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		<a href="#">86-21182</a>	2.16.840.1.113883.5.1001 (ActMood) = EVN
@negationInd	1..1	SHALL		<a href="#">86-21183</a>	false
templateId	1..1	SHALL		<a href="#">86-28251</a>	
@root	1..1	SHALL		<a href="#">86-28252</a>	2.16.840.1.113883.10.20.22.4.4
templateId	1..1	SHALL		<a href="#">86-21239</a>	
@root	1..1	SHALL		<a href="#">86-21240</a>	2.16.840.1.113883.10.20.5.6.139
id	1..1	SHALL		<a href="#">86-21184</a>	
code	1..1	SHALL		<a href="#">86-21185</a>	
@code	1..1	SHALL		<a href="#">86-21186</a>	ASSERTION
@codeSystem	1..1	SHALL		<a href="#">86-28186</a>	2.16.840.1.113883.5.4 (ActCode) = 2.16.840.1.113883.5.4
statusCode	1..1	SHALL		<a href="#">86-21187</a>	
@code	1..1	SHALL		<a href="#">86-21188</a>	2.16.840.1.113883.5.14 (ActStatus) = completed
effectiveTime	1..1	SHALL		<a href="#">86-21189</a>	
low	1..1	SHALL		<a href="#">86-28190</a>	
value	1..1	SHALL	CD	<a href="#">86-21190</a>	2.16.840.1.113883.13.20 (NHSNInfectionTypeCode)
entryRelationship	1..1	SHALL		<a href="#">86-21192</a>	
@typeCode	1..1	SHALL		<a href="#">86-21193</a>	2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = SPRT
organizer	1..1	SHALL		<a href="#">86-21194</a>	<a href="#">Criteria of Diagnosis Organizer (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.180)</a>
entryRelationship	0..1	MAY		<a href="#">86-23217</a>	
@typeCode	1..1	SHALL		<a href="#">86-</a>	2.16.840.1.113883.5.1002

				<a href="#">23218</a>	(HL7ActRelationshipType) = REFR
observation	1..1	SHALL		<a href="#">86-23219</a>	<a href="#">Infection Condition Observation (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.135)</a>
entryRelationship	0..1	MAY		<a href="#">86-23221</a>	
@typeCode	1..1	SHALL		<a href="#">86-23222</a>	2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR
observation	1..1	SHALL		<a href="#">86-23223</a>	<a href="#">Secondary Bloodstream Infection Observation (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.160)</a>
entryRelationship	0..1	MAY		<a href="#">86-23225</a>	
@typeCode	1..1	SHALL		<a href="#">86-23226</a>	2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = COMP
observation	1..1	SHALL		<a href="#">86-23227</a>	<a href="#">Bloodstream Infection Evidence Type Observation (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.114)</a>
entryRelationship	0..1	MAY		<a href="#">86-23229</a>	
@typeCode	1..1	SHALL		<a href="#">86-23230</a>	2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = COMP
observation	1..1	SHALL		<a href="#">86-23231</a>	<a href="#">Occasion of HAI Detection Observation (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.144)</a>

1. Conforms to Problem Observation template (identifier: urn: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:86-21181).
3. **SHALL** contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:86-21182).
4. **SHALL** contain exactly one [1..1] @negationInd="false" (CONF:86-21183).
5. **SHALL** contain exactly one [1..1] templateId (CONF:86-28251) such that it
  - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.4.4" (CONF:86-28252).
6. **SHALL** contain exactly one [1..1] templateId (CONF:86-21239) such that it
  - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.6.139" (CONF:86-21240).
7. **SHALL** contain exactly one [1..1] id (CONF:86-21184).
8. **SHALL** contain exactly one [1..1] code (CONF:86-21185).

- a. This code **SHALL** contain exactly one [1..1] **@code**="ASSERTION" Assertion (CONF:86-21186).
  - b. 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:86-28186).
9. **SHALL** contain exactly one [1..1] **statusCode** (CONF:86-21187).
  - a. This statusCode **SHALL** contain exactly one [1..1] **@code**="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14 **STATIC**) (CONF:86-21188).
10. **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:86-21189).
  - a. This effectiveTime **SHALL** contain exactly one [1..1] **low** (CONF:86-28190).
11. **SHALL** contain exactly one [1..1] **value** with **@xsi:type**="CD", where the code **SHALL** be selected from ValueSet [NHSNInfectionTypeCode](#) 2.16.840.1.113883.13.20 **DYNAMIC** (CONF:86-21190).
12. **SHALL** contain exactly one [1..1] **entryRelationship** (CONF:86-21192) such that it
  - a. **SHALL** contain exactly one [1..1] **@typeCode**="SPRT" Supports (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002 **STATIC**) (CONF:86-21193).
  - b. **SHALL** contain exactly one [1..1] [Criteria of Diagnosis Organizer](#) (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.180) (CONF:86-21194).
13. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:86-23217) such that it
  - a. **SHALL** contain exactly one [1..1] **@typeCode**="REFR" (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002) (CONF:86-23218).
  - b. **SHALL** contain exactly one [1..1] [Infection Condition Observation](#) (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.135) (CONF:86-23219).
  - c. 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:86-23220).
14. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:86-23221) such that it
  - a. **SHALL** contain exactly one [1..1] **@typeCode**="REFR" (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002) (CONF:86-23222).
  - b. **SHALL** contain exactly one [1..1] [Secondary Bloodstream Infection Observation](#) (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.160) (CONF:86-23223).
  - c. 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:86-23224).
15. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:86-23225) such that it
  - a. **SHALL** contain exactly one [1..1] **@typeCode**="COMP" (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002) (CONF:86-23226).
  - b. **SHALL** contain exactly one [1..1] [Bloodstream Infection Evidence Type Observation](#) (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.114) (CONF:86-23227).
  - c. If the report is a BSI Report, an entryRelationship element **SHALL** be present containing a Bloodstream Infection Evidence Type Observation (CONF:86-23228).
16. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:86-23229) such that it

- a. **SHALL** contain exactly one [1..1] @typeCode="COMP" (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002) (CONF:86-23230).
- b. **SHALL** contain exactly one [1..1] [Occasion of HAI Detection Observation](#) (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.144) (CONF:86-23231).
- c. If the report is an SSI Report, an entryRelationship element **SHALL** be present containing an Occasion of HAI Detection Observation (CONF:86-23232).

**Table 210: 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 78: 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>
  ...
  <!-- If infection report is NOT a BSI Report, the following observations are required.
    If an SSI Report, an Occasion of HAI Detection Observation is ALSO required.
    If a BSI Report, a Bloodstream Infection Evidence Type Observation is required. -->
  <entryRelationship typeCode="REFR">
    <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"/>
      ...
    </observation>
  </entryRelationship>

  <entryRelationship typeCode="REFR">
    <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"/>
      ...
    </observation>
  </entryRelationship>
</observation>
```

### 3.50 Isolate Susceptibility Tests Organizer (V2)

[organizer: identifier urn:hl7ii:2.16.840.1.113883.10.20.5.6.201:2014-12-01  
(closed) ]

**Table 211: Isolate Susceptibility Tests Organizer (V2) Contexts**

Contained By:	Contains:
<a href="#">Specimen Collection Procedure (ARO) (V2)</a> (required)	<a href="#">Antimicrobial Susceptibility Isolate Participant</a> <a href="#">Antimicrobial Susceptibility Tests Organizer (V2)</a> <a href="#">ARO Staph Aureus Specific Tests Organizer</a>

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 212: Isolate Susceptibility Tests Organizer (V2) Constraints Overview**

XPath	Card.	Verb	Data Type	CONF#	Value
organizer (identifier: urn:hl7ii:2.16.840.1.113883.10.20.5.6.201:2014-12-01)					
@classCode	1..1	SHALL		<a href="#">1129-27120</a>	2.16.840.1.113883.5.6 (HL7ActClass) = CLUSTER
@moodCode	1..1	SHALL		<a href="#">1129-27121</a>	2.16.840.1.113883.5.1001 (ActMood) = EVN
templateId	1..1	SHALL		<a href="#">1129-27122</a>	
@root	1..1	SHALL		<a href="#">1129-27123</a>	2.16.840.1.113883.10.20.5.6.201
@extension	1..1	SHALL		<a href="#">1129-30470</a>	2014-12-01
id	1..*	SHALL		<a href="#">1129-27124</a>	
@nullFlavor	1..1	SHALL		<a href="#">1129-27125</a>	NA
code	1..1	SHALL		<a href="#">1129-27126</a>	
@code	1..1	SHALL		<a href="#">1129-27127</a>	2.16.840.1.113883.6.1 (LOINC) = 18725-2
statusCode	1..1	SHALL		<a href="#">1129-27128</a>	
@code	1..1	SHALL		<a href="#">1129-27129</a>	2.16.840.1.113883.5.14 (ActStatus) = completed
participant	1..1	SHALL		<a href="#">1129-27130</a>	<a href="#">Antimicrobial Susceptibility Isolate Participant (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.202)</a>
component	0..1	MAY		<a href="#">1129-27156</a>	
organizer	1..1	SHALL		<a href="#">1129-27157</a>	<a href="#">ARO Staph Aureus Specific Tests Organizer (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.190)</a>
component	1..*	SHALL		<a href="#">1129-27158</a>	
organizer	1..1	SHALL		<a href="#">1129-30469</a>	<a href="#">Antimicrobial Susceptibility Tests Organizer (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.5.6.177:2014-12-01)</a>

1. **SHALL** contain exactly one [1..1] @classCode="CLUSTER" (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6) (CONF:1129-27120).
2. **SHALL** contain exactly one [1..1] @moodCode="EVN" (CodeSystem: ActMood 2.16.840.1.113883.5.1001) (CONF:1129-27121).

3. **SHALL** contain exactly one [1..1] **templateId** (CONF:1129-27122) such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.5.6.201" (CONF:1129-27123).
  - b. **SHALL** contain exactly one [1..1] **@extension**="2014-12-01" (CONF:1129-30470).
4. **SHALL** contain at least one [1..\*] **id** (CONF:1129-27124).
  - a. Such ids **SHALL** contain exactly one [1..1] **@nullFlavor**="NA" (CONF:1129-27125).
5. **SHALL** contain exactly one [1..1] **code** (CONF:1129-27126).
  - a. This code **SHALL** contain exactly one [1..1] **@code**="18725-2" Microbiology studies (CodeSystem: LOINC 2.16.840.1.113883.6.1) (CONF:1129-27127).
6. **SHALL** contain exactly one [1..1] **statusCode** (CONF:1129-27128).
  - a. This statusCode **SHALL** contain exactly one [1..1] **@code**="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14) (CONF:1129-27129).
7. **SHALL** contain exactly one [1..1] Antimicrobial Susceptibility Isolate Participant (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.202) (CONF:1129-27130).

This component is included only if the isolate is Staphylococcus aureus.

8. **MAY** contain zero or one [0..1] **component** (CONF:1129-27156) such that it
  - a. **SHALL** contain exactly one [1..1] ARO Staph Aureus Specific Tests Organizer (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.190) (CONF:1129-27157).
9. **SHALL** contain at least one [1..\*] **component** (CONF:1129-27158) such that it
  - a. **SHALL** contain exactly one [1..1] Antimicrobial Susceptibility Tests Organizer (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.5.6.177:2014-12-01) (CONF:1129-30469).

**Figure 79: Isolate Susceptibility Tests Organizer (V2) Example**

```
<organizer classCode="CLUSTER" moodCode="EVN">
  <!-- Isolate Susceptibility Tests Organizer -->
  <templateId root="2.16.840.1.113883.10.20.5.6.201"
    extension="2014-12-01" />
  <id nullFlavor="NA" />
  <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"
        extension="2014-12-01" />
      ...
    </organizer>
  </component>
  ...
</organizer>
```

### 3.51 IV Antibiotic Start Clinical Statement

[substanceAdministration: identifier urn:oid:2.16.840.1.113883.10.20.5.6.140  
(closed)]

**Table 213: IV Antibiotic Start Clinical Statement Contexts**

Contained By:	Contains:
<a href="#">Infection Indicator Organizer (V2)</a> (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 214: IV Antibiotic Start Clinical Statement Constraints Overview**

<b>XPath</b>	<b>Card.</b>	<b>Verb</b>	<b>Data Type</b>	<b>CONF#</b>	<b>Value</b>
substanceAdministration (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.140)					
@classCode	1..1	SHALL		<a href="#">86-21171</a>	2.16.840.1.113883.5.6 (HL7ActClass) = SBADM
@moodCode	1..1	SHALL		<a href="#">86-21172</a>	2.16.840.1.113883.5.1001 (ActMood) = EVN
@negationInd	1..1	SHALL		<a href="#">86-21173</a>	
templateId	1..1	SHALL		<a href="#">86-28253</a>	
@root	1..1	SHALL		<a href="#">86-28254</a>	2.16.840.1.113883.10.20.22.4.16
templateId	1..1	SHALL		<a href="#">86-21426</a>	
@root	1..1	SHALL		<a href="#">86-21427</a>	2.16.840.1.113883.10.20.5.6.140
id	1..1	SHALL		<a href="#">86-21428</a>	
@nullFlavor	1..1	SHALL		<a href="#">86-22766</a>	NA
code	1..1	SHALL		<a href="#">86-21174</a>	
@code	1..1	SHALL		<a href="#">86-21175</a>	281790008
@codeSystem	1..1	SHALL		<a href="#">86-28187</a>	2.16.840.1.113883.6.96 (SNOMED CT) = 2.16.840.1.113883.6.96
statusCode	1..1	SHALL		<a href="#">86-21429</a>	
@code	1..1	SHALL		<a href="#">86-28109</a>	2.16.840.1.113883.5.14 (ActStatus) = completed
effectiveTime	1..1	SHALL	IVL_TS	<a href="#">86-21496</a>	
low	1..1	SHALL		<a href="#">86-21497</a>	
@nullFlavor	1..1	SHALL		<a href="#">86-22767</a>	NA
high	1..1	SHALL		<a href="#">86-21498</a>	
@nullFlavor	1..1	SHALL		<a href="#">86-22768</a>	NA
consumable	1..1	SHALL		<a href="#">86-21176</a>	
manufacturedProduct	1..1	SHALL		<a href="#">86-21177</a>	

@classCode	1..1	SHALL		<a href="#">86-28348</a>	2.16.840.1.113883.5.110 (RoleClass) = MANU
templateId	1..1	SHALL		<a href="#">86-28338</a>	
@root	1..1	SHALL		<a href="#">86-28339</a>	2.16.840.1.113883.10.20.22.4.23
manufacturedMaterial	1..1	SHALL		<a href="#">86-21178</a>	
code	1..1	SHALL		<a href="#">86-21179</a>	

1. Conforms to Medication Activity template (identifier: urn: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:86-21171).
3. **SHALL** contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:86-21172).
4. **SHALL** contain exactly one [1..1] @negationInd (CONF:86-21173).
5. **SHALL** contain exactly one [1..1] templateId (CONF:86-28253) such that it
  - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.4.16" (CONF:86-28254).
6. **SHALL** contain exactly one [1..1] templateId (CONF:86-21426) such that it
  - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.6.140" (CONF:86-21427).
7. **SHALL** contain exactly one [1..1] id (CONF:86-21428).
  - a. This id **SHALL** contain exactly one [1..1] @nullFlavor="NA" (CONF:86-22766).
8. **SHALL** contain exactly one [1..1] code (CONF:86-21174).
  - a. This code **SHALL** contain exactly one [1..1] @code="281790008" Intravenous antibiotic therapy (CONF:86-21175).
  - b. 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:86-28187).
9. **SHALL** contain exactly one [1..1] statusCode (CONF:86-21429).
  - a. This statusCode **SHALL** contain exactly one [1..1] @code="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14) (CONF:86-28109).
10. **SHALL** contain exactly one [1..1] effectiveTime (CONF:86-21496).
  - a. This effectiveTime **SHALL** contain exactly one [1..1] low (CONF:86-21497).
    - i. This low **SHALL** contain exactly one [1..1] @nullFlavor="NA" (CONF:86-22767).
  - b. This effectiveTime **SHALL** contain exactly one [1..1] high (CONF:86-21498).
    - i. This high **SHALL** contain exactly one [1..1] @nullFlavor="NA" (CONF:86-22768).
11. **SHALL** contain exactly one [1..1] consumable (CONF:86-21176).



- a. This consumable **SHALL** contain exactly one [1..1] **manufacturedProduct** (CONF:86-21177).
  - i. This manufacturedProduct **SHALL** contain exactly one [1..1] **@classCode="MANU"** (CodeSystem: RoleClass 2.16.840.1.113883.5.110) (CONF:86-28348).
  - ii. This manufacturedProduct **SHALL** contain exactly one [1..1] **templateId** (CONF:86-28338) such that it
    1. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.22.4.23"** (CONF:86-28339).
  - iii. This manufacturedProduct **SHALL** contain exactly one [1..1] **manufacturedMaterial** (CONF:86-21178).
    1. This manufacturedMaterial **SHALL** contain exactly one [1..1] **code** (CONF:86-21179).
      - a. 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:86-21180).

**Figure 80: 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>
```

### 3.52 IV Antifungal Start Clinical Statement

[substanceAdministration: identifier urn:oid:2.16.840.1.113883.10.20.5.6.141  
(closed) ]

**Table 215: IV Antifungal Start Clinical Statement Contexts**

Contained By:	Contains:
<a href="#">Infection Indicator Organizer (V2)</a> (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 216: IV Antifungal Start Clinical Statement Constraints Overview**

<b>XPath</b>	<b>Card.</b>	<b>Verb</b>	<b>Data Type</b>	<b>CONF#</b>	<b>Value</b>
substanceAdministration (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.141)					
@classCode	1..1	SHALL		<a href="#">86-21166</a>	2.16.840.1.113883.5.6 (HL7ActClass) = SBADM
@moodCode	1..1	SHALL		<a href="#">86-21167</a>	2.16.840.1.113883.5.1001 (ActMood) = EVN
@negationInd	1..1	SHALL		<a href="#">86-21168</a>	
templateId	1..1	SHALL		<a href="#">86-28255</a>	
@root	1..1	SHALL		<a href="#">86-28256</a>	2.16.840.1.113883.10.20.22.4.16
templateId	1..1	SHALL		<a href="#">86-21501</a>	
@root	1..1	SHALL		<a href="#">86-21502</a>	2.16.840.1.113883.10.20.5.6.141
id	1..1	SHALL		<a href="#">86-21503</a>	
@nullFlavor	1..1	SHALL		<a href="#">86-22763</a>	NA
code	1..1	SHALL		<a href="#">86-21169</a>	
@code	1..1	SHALL		<a href="#">86-21170</a>	2306-9
@codeSystem	0..1	MAY		<a href="#">86-28188</a>	2.16.840.1.113883.6.277 (cdcNHSN) = 2.16.840.1.113883.6.277
statusCode	1..1	SHALL		<a href="#">86-21504</a>	
@code	1..1	SHALL		<a href="#">86-28110</a>	2.16.840.1.113883.5.14 (ActStatus) = completed
effectiveTime	1..1	SHALL	IVL_TS	<a href="#">86-21505</a>	
low	1..1	SHALL		<a href="#">86-21506</a>	
@nullFlavor	0..1	SHOULD		<a href="#">86-22764</a>	NA
high	1..1	SHALL		<a href="#">86-21507</a>	
@nullFlavor	0..1	SHOULD		<a href="#">86-22765</a>	NA
consumable	1..1	SHALL		<a href="#">86-28340</a>	
manufacturedProduct	1..1	SHALL		<a href="#">86-28341</a>	

@classCode	1..1	SHALL		<a href="#">86-28347</a>	2.16.840.1.113883.5.110 (RoleClass) = MANU
templateId	1..1	SHALL		<a href="#">86-28342</a>	
@root	1..1	SHALL		<a href="#">86-28345</a>	2.16.840.1.113883.10.20.22.4.23
manufacturedMaterial	1..1	SHALL		<a href="#">86-28343</a>	
code	1..1	SHALL		<a href="#">86-28344</a>	
@nullFlavor	1..1	SHALL		<a href="#">86-28346</a>	2.16.840.1.113883.5.1008 (HL7NullFlavor) = NI

1. Conforms to Medication Activity template (identifier: urn: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:86-21166).
3. **SHALL** contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:86-21167).
4. **SHALL** contain exactly one [1..1] @negationInd (CONF:86-21168).
5. **SHALL** contain exactly one [1..1] templateId (CONF:86-28255) such that it
  - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.4.16" (CONF:86-28256).
6. **SHALL** contain exactly one [1..1] templateId (CONF:86-21501) such that it
  - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.6.141" (CONF:86-21502).
7. **SHALL** contain exactly one [1..1] id (CONF:86-21503).
  - a. This id **SHALL** contain exactly one [1..1] @nullFlavor="NA" (CONF:86-22763).
8. **SHALL** contain exactly one [1..1] code (CONF:86-21169).
  - a. This code **SHALL** contain exactly one [1..1] @code="2306-9" Intravenous injection of antifungal substance (CONF:86-21170).
  - b. 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:86-28188).
9. **SHALL** contain exactly one [1..1] statusCode (CONF:86-21504).
  - a. This statusCode **SHALL** contain exactly one [1..1] @code="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14) (CONF:86-28110).
10. **SHALL** contain exactly one [1..1] effectiveTime (CONF:86-21505).
  - a. This effectiveTime **SHALL** contain exactly one [1..1] low (CONF:86-21506).
    - i. This low **SHOULD** contain zero or one [0..1] @nullFlavor="NA" (CONF:86-22764).
  - b. This effectiveTime **SHALL** contain exactly one [1..1] high (CONF:86-21507).
    - i. This high **SHOULD** contain zero or one [0..1] @nullFlavor="NA" (CONF:86-22765).

C-CDA (and CDA) require the consumable element, however NHSN does not collect further information about the antifungal.

11. **SHALL** contain exactly one [1..1] **consumable** (CONF:86-28340).
  - a. This consumable **SHALL** contain exactly one [1..1] **manufacturedProduct** (CONF:86-28341).
    - i. This manufacturedProduct **SHALL** contain exactly one [1..1] **@classCode="MANU"** (CodeSystem: RoleClass 2.16.840.1.113883.5.110) (CONF:86-28347).
    - ii. This manufacturedProduct **SHALL** contain exactly one [1..1] **templateId** (CONF:86-28342) such that it
      1. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.22.4.23"** (CONF:86-28345).
    - iii. This manufacturedProduct **SHALL** contain exactly one [1..1] **manufacturedMaterial** (CONF:86-28343).
      1. This manufacturedMaterial **SHALL** contain exactly one [1..1] **code** (CONF:86-28344).
        - a. This code **SHALL** contain exactly one [1..1] **@nullFlavor="NI"** (CodeSystem: HL7NullFlavor 2.16.840.1.113883.5.1008) (CONF:86-28346).

**Figure 81: IV Antifungal 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 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>
```

### 3.53 Last Physical Overnight Location Act

[act: identifier urn:hl7ii:2.16.840.1.113883.10.20.5.6.227:2014-12-01  
(closed)]

**Table 217: Last Physical Overnight Location Act Contexts**

Contained By:	Contains:
<a href="#">Encounters Section in a LIO Report (V2)</a> (required)	<a href="#">Last Physical Overnight Location Encounter</a>

The Last Physical Overnight Location Act template is a wrapper around the Last Physical Overnight Location Encounter template. This template identifies that the contained encounter represents the last physical overnight location of the patient, while the encounter template records the the type of encounter and the type of location.

**Table 218: Last Physical Overnight Location Act Constraints Overview**

XPath	Card.	Verb	Data Type	CONF#	Value
act (identifier: urn:hl7ii:2.16.840.1.113883.10.20.5.6.227:2014-12-01)					
@nullFlavor	0..1	MAY		<a href="#">1129-30558</a>	2.16.840.1.113883.5.1008 (HL7NullFlavor) = NA
@classCode	1..1	SHALL		<a href="#">1129-30564</a>	2.16.840.1.113883.5.6 (HL7ActClass) = ACT
@moodCode	1..1	SHALL		<a href="#">1129-30565</a>	2.16.840.1.113883.5.1001 (ActMood) = EVN
templateId	1..1	SHALL		<a href="#">1129-30560</a>	
@root	1..1	SHALL		<a href="#">1129-30567</a>	2.16.840.1.113883.10.20.5.6.227
@extension	1..1	SHALL		<a href="#">1129-30570</a>	2014-12-01
code	1..1	SHALL		<a href="#">1129-30562</a>	
@code	1..1	SHALL		<a href="#">1129-30569</a>	3002-3
@codeSystem	1..1	SHALL		<a href="#">1129-30571</a>	2.16.840.1.113883.6.277 (cdcNHSN) = 2.16.840.1.113883.6.277
entryRelationship	0..1	SHOULD		<a href="#">1129-30572</a>	
@typeCode	1..1	SHALL		<a href="#">1129-30573</a>	2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = COMP
encounter	1..1	SHALL		<a href="#">1129-30574</a>	<a href="#">Last Physical Overnight Location Encounter (identifier: urn:hl7ii:2.16.840.1.113883.10.20.5.6.220:2014-12-01)</a>

Use nullFlavor="NA" where the last physical overnight location is not applicable.

1. **MAY** contain zero or one [0..1] @nullFlavor="NA" (CodeSystem: HL7NullFlavor 2.16.840.1.113883.5.1008 **STATIC**) (CONF:1129-30558).
2. **SHALL** contain exactly one [1..1] @classCode="ACT" (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 **STATIC**) (CONF:1129-30564).
3. **SHALL** contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:1129-30565).
4. **SHALL** contain exactly one [1..1] templateId (CONF:1129-30560) such that it
  - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.6.227" (CONF:1129-30567).
  - b. **SHALL** contain exactly one [1..1] @extension="2014-12-01" (CONF:1129-30570).
5. **SHALL** contain exactly one [1..1] code (CONF:1129-30562).
  - a. This code **SHALL** contain exactly one [1..1] @code="3002-3" Last physical overnight location of patient immediately prior to arrival into facility (CONF:1129-30569).
  - b. 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:1129-30571).

Where the last physical overnight location is not applicable, this entryRelationship will not be present.

6. **SHOULD** contain zero or one [0..1] entryRelationship (CONF:1129-30572).
  - a. The entryRelationship, if present, **SHALL** contain exactly one [1..1] @typeCode="COMP" Component (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002) (CONF:1129-30573).
  - b. The entryRelationship, if present, **SHALL** contain exactly one [1..1] Last Physical Overnight Location Encounter (identifier: urn:hl7ii:2.16.840.1.113883.10.20.5.6.220:2014-12-01) (CONF:1129-30574).

**Figure 82: Last Physical Overnight Location Act Example**

```
<act classCode="ACT" moodCode="EVN">
  <!-- Last Physical Overnight Location Act templateId -->
  <templateId root="2.16.840.1.113883.10.20.5.6.227"
    extension="2014-12-01" />
  <code code="3002-3"
    displayName="Last physical overnight location of patient immediately prior to
      arrival into facility"
    codeSystem="2.16.840.1.113883.6.277" codeSystemName="cdcNHSN" />
  <entryRelationship typeCode="COMP">
    <!-- Last Physical Overnight Location Encounter -->
    <encounter classCode="ENC" moodCode="EVN">
      <!-- CCD Encounter activity templateId -->
      <templateId root="2.16.840.1.113883.10.20.22.4.49" />
      <!-- Last Physical Overnight Location Encounter templateId -->
      <templateId root="2.16.840.1.113883.10.20.5.6.220"
        extension="2014-12-01" />
      ...
    </encounter>
  </entryRelationship>
</act>
```

**Figure 83: Last Physical Overnight Location Act - Not Applicable Example**

```
<act classCode="ACT" moodCode="EVN" nullFlavor="NA">
  <!-- Last Physical Overnight Location Act templateId -->
  <templateId root="2.16.840.1.113883.10.20.5.6.227"
    extension="2014-12-01" />
  <code code="3002-3"
    displayName="Last physical overnight location of patient immediately prior to
      arrival into facility"
    codeSystem="2.16.840.1.113883.6.277" codeSystemName="cdcNHSN" />
</act>
```

### 3.54 Last Physical Overnight Location Encounter

[encounter: identifier urn:hl7ii:2.16.840.1.113883.10.20.5.6.220:2014-12-01  
(closed)]

**Table 219: Last Physical Overnight Location Encounter Contexts**

Contained By:	Contains:
<a href="#">Last Physical Overnight Location Act</a> (optional)	

The Last Physical Overnight Location Encounter template represents an encounter at the last physical overnight location of the patient immediately prior to his or her arrival into the facility. The type of encounter can be either "IMP" (inpatient encounter) or "HH" (home health) depending on the last location; the location participant records the type of the last overnight location. If the last physical overnight location is unknown code will be nullFlavor="UNK".



**Table 220: Last Physical Overnight Location Encounter Constraints Overview**

<b>XPath</b>	<b>Card.</b>	<b>Verb</b>	<b>Data Type</b>	<b>CONF#</b>	<b>Value</b>
encounter (identifier: urn:hl7ii:2.16.840.1.113883.10.20.5.6.220:2014-12-01)					
@classCode	1..1	SHALL		<a href="#">1129-30271</a>	2.16.840.1.113883.5.6 (HL7ActClass) = ENC
@moodCode	1..1	SHALL		<a href="#">1129-30272</a>	2.16.840.1.113883.5.1001 (ActMood) = EVN
templateId	1..1	SHALL		<a href="#">1129-30493</a>	
@root	1..1	SHALL		<a href="#">1129-30494</a>	2.16.840.1.113883.10.20.22.4.49
templateId	1..1	SHALL		<a href="#">1129-30495</a>	
@root	0..1	SHALL		<a href="#">1129-30496</a>	2.16.840.1.113883.10.20.5.6.220
@extension	1..1	SHALL		<a href="#">1129-30497</a>	2014-12-01
id	1..*	SHALL		<a href="#">1129-30256</a>	
@nullFlavor	1..1	SHALL		<a href="#">1129-30263</a>	NA
code	1..1	SHALL		<a href="#">1129-30257</a>	2.16.840.1.113883.10.20.5.9.2 (NHSNLastLocationEncounterTypeCode)
@nullFlavor	0..1	MAY		<a href="#">1129-30593</a>	2.16.840.1.113883.5.1008 (HL7NullFlavor) = UNK
effectiveTime	1..1	SHALL		<a href="#">1129-30258</a>	
@nullFlavor	1..1	SHALL		<a href="#">1129-30265</a>	NA
participant	0..1	SHOULD		<a href="#">1129-30260</a>	
@typeCode	1..1	SHALL		<a href="#">1129-30270</a>	2.16.840.1.113883.5.90 (HL7ParticipationType) = LOC
participantRole	1..1	SHALL		<a href="#">1129-30261</a>	
@classCode	1..1	SHALL		<a href="#">1129-30269</a>	2.16.840.1.113883.5.41 (EntityClass) = SDLOC
code	1..1	SHALL		<a href="#">1129-30262</a>	
@code	1..1	SHALL		<a href="#">1129-30482</a>	2.16.840.1.114222.4.11.7233 (NHSNPreviousPatientLocation)

1. Conforms to Encounter Activities template (identifier: urn: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:1129-30271).
3. **SHALL** contain exactly one [1..1] **@moodCode="EVN"** Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:1129-30272).
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:1129-30493) such that it
  - a. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.22.4.49"** (CONF:1129-30494).
5. **SHALL** contain exactly one [1..1] **templateId** (CONF:1129-30495) such that it
  - a. **SHALL** contain zero or one [0..1] **@root="2.16.840.1.113883.10.20.5.6.220"** (CONF:1129-30496).
  - b. **SHALL** contain exactly one [1..1] **@extension="2014-12-01"** (CONF:1129-30497).
6. **SHALL** contain at least one [1..\*] **id** (CONF:1129-30256).
  - a. Such ids **SHALL** contain exactly one [1..1] **@nullFlavor="NA"** (CONF:1129-30263).

If the last physical overnight location was a nursing home/skilled nursing facility or other inpatient healthcare setting, the encounter code will be "IMP". If the last physical overnight location is a personal residence/residential care, then the encounter code will be "HH". If the last physical overnight location is unknown use nullFlavor="UNK".

7. **SHALL** contain exactly one [1..1] **code**, which **SHALL** be selected from ValueSet [NHSNLastLocationEncounterTypeCode](#) 2.16.840.1.113883.10.20.5.9.2 **STATIC** 2014-11-01 (CONF:1129-30257).
  - a. This code **MAY** contain zero or one [0..1] **@nullFlavor="UNK"** Unknown (CodeSystem: HL7NullFlavor 2.16.840.1.113883.5.1008) (CONF:1129-30593).
8. **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:1129-30258).
  - a. This effectiveTime **SHALL** contain exactly one [1..1] **@nullFlavor="NA"** (CONF:1129-30265).

If the last physical overnight location is unknown, this participant will not be present.

9. **SHOULD** contain zero or one [0..1] **participant** (CONF:1129-30260).
  - a. The participant, if present, **SHALL** contain exactly one [1..1] **@typeCode="LOC"** Location (CodeSystem: HL7ParticipationType 2.16.840.1.113883.5.90) (CONF:1129-30270).
  - b. The participant, if present, **SHALL** contain exactly one [1..1] **participantRole** (CONF:1129-30261).
    - i. This participantRole **SHALL** contain exactly one [1..1] **@classCode="SDLOC"** Service Delivery Location (CodeSystem: EntityClass 2.16.840.1.113883.5.41) (CONF:1129-30269).
    - ii. This participantRole **SHALL** contain exactly one [1..1] **code** (CONF:1129-30262).
      1. This code **SHALL** contain exactly one [1..1] **@code**, which **SHALL** be selected from ValueSet [NHSNPreviousPatientLocation](#) 2.16.840.1.114222.4.11.7233 **DYNAMIC** (CONF:1129-30482).

**Table 221: NHSNLastLocationEncounterTypeCode**

Value Set: NHSNLastLocationEncounterTypeCode 2.16.840.1.113883.10.20.5.9.2			
These codes describe the type of encounter of the last physical overnight location of the patient.			
Code	Code System	Code System OID	Print Name
HH	ActCode	2.16.840.1.113883.5.4	home health
IMP	ActCode	2.16.840.1.113883.5.4	inpatient encounter

**Table 222: NHSNPreviousPatientLocation**

Value Set: NHSNPreviousPatientLocation 2.16.840.1.114222.4.11.7233			
Previous location of the patient.			
Code	Code System	Code System OID	Print Name
3005-6	cdcNHSN	2.16.840.1.113883.6.277	Nursing Home/Skilled Nursing Facility
3006-4	cdcNHSN	2.16.840.1.113883.6.277	Other Inpatient Healthcare Setting (e.g., Acute Care Hospital, LTAC, Rehabilitation, etc.)
3007-2	cdcNHSN	2.16.840.1.113883.6.277	Personal Residence/Residential Care

**Figure 84: Last Physical Overnight Location Encounter Example**

```
<encounter classCode="ENC" moodCode="EVN">
  <!-- CCD Encounter activity templateId -->
  <templateId root="2.16.840.1.113883.10.20.22.4.49" />
  <!-- Last Physical Overnight Location Encounter templateId -->
  <templateId root="2.16.840.1.113883.10.20.5.6.220"
    extension="2014-12-01" />

  <id nullFlavor="NA" />
  <!-- If the last physical overnight location was a nursing home/skilled nursing
    facility or other inpatient healthcare setting, the encounter code will be
    "IMP". If the last physical overnight location is a personal
    residence/residential care then the encounter code will be "HH". -->
  <code code="HH"
    displayName="home health"
    codeSystem="2.16.840.1.113883.5.4"
    codeSystemName="ActCode" />

  <effectiveTime nullFlavor="NA" />

  <participant typeCode="LOC">
    <participantRole classCode="SDLOC">
      <code code="3007-2"
        displayName="Personal Residence/Residential Care"
        codeSystem="2.16.840.1.113883.6.277"
        codeSystemName="cdcNHSN" />
    </participantRole>
  </participant>
</encounter>
```

**Figure 85: Last Physical Overnight Location Encounter - Unknown Example**

```
<encounter classCode="ENC" moodCode="EVN">
  <!-- C-CDA Encounter Activity templateId -->
  <templateId root="2.16.840.1.113883.10.20.22.4.49" />
  <!-- Last Physical Overnight Location Encounter templateId -->
  <templateId root="2.16.840.1.113883.10.20.5.6.220"
    extension="2014-12-01" />
  <id nullFlavor="NA" />
  <!-- The last physical overnight location is unknown -->
  <code nullFlavor="UNK" />
  <effectiveTime nullFlavor="NA" />
</encounter>
```

### 3.55 Loss of Vascular Access Observation

[observation: identifier urn:oid:2.16.840.1.113883.10.20.5.6.203 (closed)]

**Table 223: Loss of Vascular Access Observation Contexts**

Contained By:	Contains:
<a href="#">Details Section in an Evidence of Infection (Dialysis) Report (V3)</a> (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 224: Loss of Vascular Access Observation Constraints Overview**

XPath	Card.	Verb	Data Type	CONF#	Value
observation (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.203)					
@nullFlavor	0..1	MAY		<a href="#">1101-30214</a>	UNK
@classCode	1..1	SHALL		<a href="#">1101-30205</a>	2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		<a href="#">1101-30206</a>	EVN
@negationInd	0..1	SHOULD		<a href="#">1101-30216</a>	
templateId	1..1	SHALL		<a href="#">1101-30301</a>	
@root	1..1	SHALL		<a href="#">1101-30302</a>	2.16.840.1.113883.10.20.22.4.4
templateId	1..1	SHALL		<a href="#">1101-30207</a>	
@root	1..1	SHALL		<a href="#">1101-30208</a>	2.16.840.1.113883.10.20.5.6.203
id	1..1	SHALL		<a href="#">1101-30209</a>	
@nullFlavor	1..1	SHALL		<a href="#">1101-30224</a>	NA
code	1..1	SHALL		<a href="#">1101-30210</a>	
@code	1..1	SHALL		<a href="#">1101-30218</a>	ASSERTION
@codeSystem	1..1	SHALL		<a href="#">1101-30219</a>	2.16.840.1.113883.5.4 (ActCode) = 2.16.840.1.113883.5.4
statusCode	1..1	SHALL		<a href="#">1101-30211</a>	
@code	1..1	SHALL		<a href="#">1101-30212</a>	2.16.840.1.113883.5.14 (ActStatus) = completed
value	1..1	SHALL	CD	<a href="#">1101-30213</a>	
@code	1..1	SHALL		<a href="#">1101-30220</a>	2.16.840.1.113883.6.277 (cdcNHSN) = 2325-9
@codeSystem	1..1	SHALL		<a href="#">1101-30221</a>	2.16.840.1.113883.6.277 (cdcNHSN) = 2.16.840.1.113883.6.277

1. Conforms to Problem Observation template (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.4).
2. **MAY** contain zero or one [0..1] @nullFlavor="UNK" (CONF:1101-30214).

- a. 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:1101-30215).
3. **SHALL** contain exactly one [1..1] @classCode="OBS" (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6) (CONF:1101-30205).
4. **SHALL** contain exactly one [1..1] @moodCode="EVN" (CONF:1101-30206).
5. **SHOULD** contain zero or one [0..1] @negationInd (CONF:1101-30216).
  - a. 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:1101-30217).
6. **SHALL** contain exactly one [1..1] templateId (CONF:1101-30301) such that it
  - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.4.4" (CONF:1101-30302).
7. **SHALL** contain exactly one [1..1] templateId (CONF:1101-30207) such that it
  - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.6.203" (CONF:1101-30208).
8. **SHALL** contain exactly one [1..1] id (CONF:1101-30209).
  - a. This id **SHALL** contain exactly one [1..1] @nullFlavor="NA" (CONF:1101-30224).
9. **SHALL** contain exactly one [1..1] code (CONF:1101-30210).
  - a. This code **SHALL** contain exactly one [1..1] @code="ASSERTION" (CONF:1101-30218).
  - b. 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:1101-30219).
10. **SHALL** contain exactly one [1..1] statusCode (CONF:1101-30211).
  - a. This statusCode **SHALL** contain exactly one [1..1] @code="completed" (CodeSystem: ActStatus 2.16.840.1.113883.5.14) (CONF:1101-30212).
11. **SHALL** contain exactly one [1..1] value with @xsi:type="CD" (CONF:1101-30213).
  - a. 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:1101-30220).
  - b. 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:1101-30221).

**Figure 86: 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>
```

### 3.56 MDRO/CDI Observation

[observation: identifier urn:oid:2.16.840.1.113883.10.20.5.6.142 (closed)]

**Table 225: MDRO/CDI Observation Contexts**

Contained By:	Contains:
<a href="#">Findings Section in an Infection-Type Report</a> (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 226: MDRO/CDI Observation Constraints Overview**

<b>XPath</b>	<b>Card.</b>	<b>Verb</b>	<b>Data Type</b>	<b>CONF#</b>	<b>Value</b>
observation (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.142)					
@classCode	1..1	SHALL		<a href="#">86-21157</a>	2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		<a href="#">86-21158</a>	2.16.840.1.113883.5.1001 (ActMood) = EVN
@negationInd	1..1	SHALL		<a href="#">86-21159</a>	
templateId	1..1	SHALL		<a href="#">86-28257</a>	
@root	1..1	SHALL		<a href="#">86-28258</a>	2.16.840.1.113883.10.20.22.4.4
templateId	1..1	SHALL		<a href="#">86-21234</a>	
@root	1..1	SHALL		<a href="#">86-21235</a>	2.16.840.1.113883.10.20.5.6.142
id	1..1	SHALL		<a href="#">86-21236</a>	
@nullFlavor	1..1	SHALL		<a href="#">86-22769</a>	NA
code	1..1	SHALL		<a href="#">86-21160</a>	
@code	1..1	SHALL		<a href="#">86-21161</a>	2.16.840.1.113883.5.4 (ActCode) = ASSERTION
statusCode	1..1	SHALL		<a href="#">86-21162</a>	
@code	1..1	SHALL		<a href="#">86-21163</a>	2.16.840.1.113883.5.14 (ActStatus) = completed
value	1..1	SHALL	CD	<a href="#">86-21164</a>	
@code	1..1	SHALL		<a href="#">86-21165</a>	2.16.840.1.113883.6.277 (cdcNHSN) = 2318-4

1. Conforms to Problem Observation template (identifier: urn: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:86-21157).
3. **SHALL** contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:86-21158).
4. **SHALL** contain exactly one [1..1] @negationInd (CONF:86-21159).
5. **SHALL** contain exactly one [1..1] templateId (CONF:86-28257) such that it
  - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.4.4" (CONF:86-28258).

6. **SHALL** contain exactly one [1..1] **templateId** (CONF:86-21234) such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.5.6.142" (CONF:86-21235).
7. **SHALL** contain exactly one [1..1] **id** (CONF:86-21236).
  - a. This id **SHALL** contain exactly one [1..1] **@nullFlavor**="NA" (CONF:86-22769).
8. **SHALL** contain exactly one [1..1] **code** (CONF:86-21160).
  - a. This code **SHALL** contain exactly one [1..1] **@code**="ASSERTION" Assertion (CodeSystem: ActCode 2.16.840.1.113883.5.4 **STATIC**) (CONF:86-21161).
9. **SHALL** contain exactly one [1..1] **statusCode** (CONF:86-21162).
  - a. This statusCode **SHALL** contain exactly one [1..1] **@code**="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14 **STATIC**) (CONF:86-21163).
10. **SHALL** contain exactly one [1..1] **value** with **@xsi:type**="CD" (CONF:86-21164).
  - a. 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:86-21165).

**Figure 87: 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>
```

### 3.57 Occasion of HAI Detection Observation

[observation: identifier urn:oid:2.16.840.1.113883.10.20.5.6.144 (closed)]

**Table 227: Occasion of HAI Detection Observation Contexts**

Contained By:	Contains:
<a href="#">Infection-Type Observation</a> (optional)	

This observation records when, in relation to an admission (a surgery stay), an HAI was detected.

**Table 228: Occasion of HAI Detection Observation Constraints Overview**

XPath	Card.	Verb	Data Type	CONF#	Value
observation (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.144)					
@classCode	1..1	SHALL		<a href="#">86-21716</a>	2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		<a href="#">86-21717</a>	2.16.840.1.113883.5.1001 (ActMood) = EVN
@negationInd	1..1	SHALL		<a href="#">86-21718</a>	false
templateId	1..1	SHALL		<a href="#">86-28259</a>	
@root	1..1	SHALL		<a href="#">86-28260</a>	2.16.840.1.113883.10.20.22.4.4
templateId	1..1	SHALL		<a href="#">86-21721</a>	
@root	1..1	SHALL		<a href="#">86-21722</a>	2.16.840.1.113883.10.20.5.6.144
id	1..1	SHALL		<a href="#">86-21723</a>	
@nullFlavor	1..1	SHALL		<a href="#">86-22773</a>	NA
code	1..1	SHALL		<a href="#">86-21724</a>	
@code	1..1	SHALL		<a href="#">86-21725</a>	2.16.840.1.113883.5.4 (ActCode) = ASSERTION
statusCode	1..1	SHALL		<a href="#">86-21726</a>	
@code	1..1	SHALL		<a href="#">86-21727</a>	2.16.840.1.113883.5.14 (ActStatus) = completed
value	1..1	SHALL	CD	<a href="#">86-21728</a>	2.16.840.1.113883.13.12 (NHSNOccasionOfDetectionCode)

1. Conforms to Problem Observation template (identifier: urn: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:86-21716).
3. **SHALL** contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:86-21717).
4. **SHALL** contain exactly one [1..1] @negationInd="false" (CONF:86-21718).
5. **SHALL** contain exactly one [1..1] templateId (CONF:86-28259) such that it
  - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.4.4" (CONF:86-28260).
6. **SHALL** contain exactly one [1..1] templateId (CONF:86-21721) such that it

- a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.5.6.144" (CONF:86-21722).
7. **SHALL** contain exactly one [1..1] **id** (CONF:86-21723).
  - a. This **id** **SHALL** contain exactly one [1..1] **@nullFlavor**="NA" (CONF:86-22773).
8. **SHALL** contain exactly one [1..1] **code** (CONF:86-21724).
  - a. This **code** **SHALL** contain exactly one [1..1] **@code**="ASSERTION" Assertion (CodeSystem: ActCode 2.16.840.1.113883.5.4 **STATIC**) (CONF:86-21725).
9. **SHALL** contain exactly one [1..1] **statusCode** (CONF:86-21726).
  - a. This **statusCode** **SHALL** contain exactly one [1..1] **@code**="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14 **STATIC**) (CONF:86-21727).
10. **SHALL** contain exactly one [1..1] **value** with **@xsi:type**="CD", where the **code** **SHALL** be selected from ValueSet [NHSNOccasionOfDetectionCode](#) 2.16.840.1.113883.13.12 **DYNAMIC** (CONF:86-21728).

**Table 229: 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 88: 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>
```

### 3.58 Other Facility Discharge Act

```
[act: identifier urn:hl7ii:2.16.840.1.113883.10.20.5.6.228:2014-12-01
(closed)]
```

**Table 230: Other Facility Discharge Act Contexts**

Contained By:	Contains:
<a href="#">Encounters Section in a LIO Report (V2)</a> (required)	<a href="#">Other Facility Discharge Encounter</a>

The Other Facility Discharge Act template is a wrapper around the Other Facility Discharge Encounter template. This template identifies that the contained encounter represents an encounter at a facility from which the patient has been discharged in the past four weeks, while the encounter template records the type of encounter and the type of facility. Multiple discharge encounters can be recorded. Use nullFlavor="NA" where the other facility discharge is not applicable (i.e. the patient has not been discharged from another facility in the past four weeks). Use nullFlavor="UNK" when it is unknown whether or not the patient has been discharged from another facility in the past four weeks.

**Table 231: Other Facility Discharge Act Constraints Overview**

XPath	Card.	Verb	Data Type	CONF#	Value
act (identifier: urn:hl7ii:2.16.840.1.113883.10.20.5.6.228:2014-12-01)					
@nullFlavor	0..1	MAY		<a href="#">1129-30580</a>	2.16.840.1.113883.10.20.5.9.2 (NullValues_UNK_NA)
@classCode	1..1	SHALL		<a href="#">1129-30585</a>	2.16.840.1.113883.5.6 (HL7ActClass) = ACT
@moodCode	1..1	SHALL		<a href="#">1129-30586</a>	2.16.840.1.113883.5.1001 (ActMood) = EVN
templateId	1..1	SHALL		<a href="#">1129-30577</a>	
@root	1..1	SHALL		<a href="#">1129-30581</a>	2.16.840.1.113883.10.20.5.6.228
@extension	1..1	SHALL		<a href="#">1129-30582</a>	2014-12-01
code	1..1	SHALL		<a href="#">1129-30578</a>	
@code	1..1	SHALL		<a href="#">1129-30583</a>	3004-9
@codeSystem	1..1	SHALL		<a href="#">1129-30584</a>	2.16.840.1.113883.6.277 (cdcNHSN) = 2.16.840.1.113883.6.277
entryRelationship	0..*	SHOULD		<a href="#">1129-30576</a>	
@typeCode	1..1	SHALL		<a href="#">1129-30587</a>	2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = COMP
encounter	1..1	SHALL		<a href="#">1129-30579</a>	<a href="#">Other Facility Discharge Encounter (identifier: urn:hl7ii:2.16.840.1.113883.10.20.5.6.218:2014-12-01)</a>

Use nullFlavor="NA" where the other facility discharge is not applicable (i.e. the patient has not been discharged from another facility in the past four weeks). Use nullFlavor="UNK" when it is unknown whether or not the patient has been discharged from another facility in the past four weeks.

1. **MAY** contain zero or one [0..1] @nullFlavor, which **SHALL** be selected from ValueSet [NullValues UNK NA](#) 2.16.840.1.113883.10.20.5.9.2 **STATIC** 2014-11-01 (CONF:1129-30580).
2. **SHALL** contain exactly one [1..1] @classCode="ACT" (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 **STATIC**) (CONF:1129-30585).
3. **SHALL** contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:1129-30586).
4. **SHALL** contain exactly one [1..1] templateId (CONF:1129-30577) such that it

- a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.5.6.228" (CONF:1129-30581).
  - b. **SHALL** contain exactly one [1..1] **@extension**="2014-12-01" (CONF:1129-30582).
- 5. **SHALL** contain exactly one [1..1] **code** (CONF:1129-30578).
  - a. This code **SHALL** contain exactly one [1..1] **@code**="3004-9" Patient discharged from another facility in the past four weeks (CONF:1129-30583).
  - b. 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:1129-30584).

Where the other facility discharge is not applicable or unknown, this entryRelationship will not be present.

Check all that apply; multiple discharges from different facilities in the past four weeks can be recorded.

- 6. **SHOULD** contain zero or more [0..\*] **entryRelationship** (CONF:1129-30576).
  - a. The entryRelationship, if present, **SHALL** contain exactly one [1..1] **@typeCode**="COMP" Component (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002) (CONF:1129-30587).
  - b. The entryRelationship, if present, **SHALL** contain exactly one [1..1] [Other Facility Discharge Encounter](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.5.6.218:2014-12-01) (CONF:1129-30579).

**Table 232: NullValues\_UNK\_NA**

Value Set: NullValues_UNK_NA 2.16.840.1.113883.10.20.5.9.2 Null values of unknown and not applicable.			
Code	Code System	Code System OID	Print Name
UNK	HL7NullFlavor	2.16.840.1.113883.5.1008	Unknown
NA	HL7NullFlavor	2.16.840.1.113883.5.1008	Not applicable

**Figure 89: Other Facility Discharge Act Example**

```
<act classCode="ACT" moodCode="EVN">
  <templateId root="2.16.840.1.113883.10.20.5.6.228"
    extension="2014-12-01" />
  <code code="3004-9"
    displayName="Patient discharged from another facility in the past four weeks"
    codeSystem="2.16.840.1.113883.6.277"
    codeSystemName="cdcNHSN" />
  <!-- Check all that apply - can have more than one discharge from
    different facilities in the past four weeks each represented by a
    different encounter -->
  <!-- First encounter -->
  <entryRelationship typeCode="COMP">
    <!-- Other Facility Discharge Encounter -->
    <encounter classCode="ENC" moodCode="EVN">
      <!-- CCD Encounter activity templateId -->
      <templateId root="2.16.840.1.113883.10.20.22.4.49" />
      <!-- Other Facility Discharge Encounter templateId -->
      <templateId root="2.16.840.1.113883.10.20.5.6.218"
        extension="2014-12-01" />

      ...
    </encounter>
  </entryRelationship>

  <!-- Second encounter -->
  <entryRelationship typeCode="COMP">
    <!-- Other Facility Discharge Encounter -->
    <encounter classCode="ENC" moodCode="EVN">
      <!-- CCD Encounter activity templateId -->
      <templateId root="2.16.840.1.113883.10.20.22.4.49" />
      <!-- Other Facility Discharge Encounter templateId -->
      <templateId root="2.16.840.1.113883.10.20.5.6.218"
        extension="2014-12-01" />

      ...
    </encounter>
  </entryRelationship>
</act>
```

**Figure 90: Other Facility Discharge Act - Not Applicable Example**

```
<act classCode="ACT" moodCode="EVN" nullFlavor="NA">
  <templateId root="2.16.840.1.113883.10.20.5.6.228"
    extension="2014-12-01" />
  <code code="3004-9"
    displayName="Patient discharged from another facility in the past four weeks"
    codeSystem="2.16.840.1.113883.6.277"
    codeSystemName="cdcNHSN" />
</act>
```



**Figure 91: Other Facility Discharge Act - Unknown Example**

```
<act classCode="ACT" moodCode="EVN" nullFlavor="UNK">
  <templateId root="2.16.840.1.113883.10.20.5.6.228"
    extension="2014-12-01" />
  <code code="3004-9"
    displayName="Patient discharged from another facility in the past four weeks"
    codeSystem="2.16.840.1.113883.6.277"
    codeSystemName="cdcNHSN" />
</act>
```

### 3.59 Other Facility Discharge Encounter

```
[encounter: identifier urn:hl7ii:2.16.840.1.113883.10.20.5.6.218:2014-12-01
(closed)]
```

**Table 233: Other Facility Discharge Encounter Contexts**

Contained By:	Contains:
<a href="#">Other Facility Discharge Act</a> (optional)	

The Other Facility Discharge Encounter represents an encounter at another facility from which the patient was discharged in the past four weeks. The type of encounter is set to "IMP" (inpatient encounter) and the location participant records the type of facility.

**Table 234: Other Facility Discharge Encounter Constraints Overview**

<b>XPath</b>	<b>Card.</b>	<b>Verb</b>	<b>Data Type</b>	<b>CONF#</b>	<b>Value</b>
encounter (identifier: urn:hl7ii:2.16.840.1.113883.10.20.5.6.218:2014-12-01)					
@classCode	1..1	SHALL		<a href="#">1129-28234</a>	2.16.840.1.113883.5.6 (HL7ActClass) = ENC
@moodCode	1..1	SHALL		<a href="#">1129-28235</a>	2.16.840.1.113883.5.1001 (ActMood) = EVN
templateId	1..1	SHALL		<a href="#">1129-30491</a>	
@root	1..1	SHALL		<a href="#">1129-30492</a>	2.16.840.1.113883.10.20.22.4.49
templateId	1..1	SHALL		<a href="#">1129-28226</a>	
@root	1..1	SHALL		<a href="#">1129-28233</a>	2.16.840.1.113883.10.20.5.6.218
@extension	1..1	SHALL		<a href="#">1129-30290</a>	2014-12-01
id	1..*	SHALL		<a href="#">1129-28222</a>	
@nullFlavor	1..1	SHALL		<a href="#">1129-28230</a>	NA
code	1..1	SHALL		<a href="#">1129-28223</a>	
@code	1..1	SHALL		<a href="#">1129-28231</a>	IMP
@codeSystem	1..1	SHALL		<a href="#">1129-30464</a>	2.16.840.1.113883.5.4 (ActCode) = 2.16.840.1.113883.5.4
effectiveTime	1..1	SHALL		<a href="#">1129-28224</a>	
@nullFlavor	1..1	SHALL		<a href="#">1129-30255</a>	NA
participant	1..1	SHALL		<a href="#">1129-28227</a>	
@typeCode	1..1	SHALL		<a href="#">1129-28239</a>	2.16.840.1.113883.5.90 (HL7ParticipationType) = LOC
participantRole	1..1	SHALL		<a href="#">1129-28228</a>	
@classCode	1..1	SHALL		<a href="#">1129-28236</a>	2.16.840.1.113883.5.41 (EntityClass) = SDLOC
code	1..1	SHALL		<a href="#">1129-28229</a>	
@code	1..1	SHALL		<a href="#">1129-28238</a>	2.16.840.1.114222.4.11.7238 (NHSNPreviousFacility)

1. Conforms to Encounter Activities template (identifier: urn: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:1129-28234).
3. **SHALL** contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:1129-28235).
4. **SHALL** contain exactly one [1..1] templateId (CONF:1129-30491) such that it
  - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.4.49" (CONF:1129-30492).
5. **SHALL** contain exactly one [1..1] templateId (CONF:1129-28226) such that it
  - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.6.218" (CONF:1129-28233).
  - b. **SHALL** contain exactly one [1..1] @extension="2014-12-01" (CONF:1129-30290).
6. **SHALL** contain at least one [1..\*] id (CONF:1129-28222).
  - a. Such ids **SHALL** contain exactly one [1..1] @nullFlavor="NA" (CONF:1129-28230).
7. **SHALL** contain exactly one [1..1] code (CONF:1129-28223).
  - a. This code **SHALL** contain exactly one [1..1] @code="IMP" inpatient encounter (CONF:1129-28231).
  - b. 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:1129-30464).
8. **SHALL** contain exactly one [1..1] effectiveTime (CONF:1129-28224).
  - a. This effectiveTime **SHALL** contain exactly one [1..1] @nullFlavor="NA" (CONF:1129-30255).
9. **SHALL** contain exactly one [1..1] participant (CONF:1129-28227).
  - a. This participant **SHALL** contain exactly one [1..1] @typeCode="LOC" Location (CodeSystem: HL7ParticipationType 2.16.840.1.113883.5.90) (CONF:1129-28239).
  - b. This participant **SHALL** contain exactly one [1..1] participantRole (CONF:1129-28228).
    - i. This participantRole **SHALL** contain exactly one [1..1] @classCode="SDLOC" Service Delivery Location (CodeSystem: EntityClass 2.16.840.1.113883.5.41) (CONF:1129-28236).
    - ii. This participantRole **SHALL** contain exactly one [1..1] code (CONF:1129-28229).
      1. This code **SHALL** contain exactly one [1..1] @code, which **SHALL** be selected from ValueSet [NHSNPPreviousFacility](#) 2.16.840.1.114222.4.11.7238 **DYNAMIC** (CONF:1129-28238).

**Table 235: NHSNPreviousFacility**

Value Set: NHSNPreviousFacility 2.16.840.1.114222.4.11.7238 Previous facility from which the patient has been discharged.			
Code	Code System	Code System OID	Print Name
3005-6	cdcNHSN	2.16.840.1.113883.6.277	Nursing Home/Skilled Nursing Facility
3006-4	cdcNHSN	2.16.840.1.113883.6.277	Other Inpatient Healthcare Setting (e.g., Acute Care Hospital, LTAC, Rehabilitation, etc.)

**Figure 92: Other Facility Discharge Encounter Example**

```

<encounter classCode="ENC" moodCode="EVN">
  <!-- C-CDA Encounter activity templateId -->
  <templateId root="2.16.840.1.113883.10.20.22.4.49" />
  <!-- Other Facility Discharge Encounter templateId -->
  <templateId root="2.16.840.1.113883.10.20.5.6.218" extension="2014-12-01" />
  <id nullFlavor="NA" />
  <code code="IMP"
    displayName="inpatient encounter"
    codeSystem="2.16.840.1.113883.5.4"
    codeSystemName="ActCode" />
  <effectiveTime nullFlavor="NA" />
  <participant typeCode="LOC">
    <participantRole classCode="SDLOC">
      <code code="3005-6"
        displayName="Nursing Home/Skilled Nursing Facility"
        codeSystem="2.16.840.1.113883.6.277"
        codeSystemName="cdcNHSN" />
    </participantRole>
  </participant>
</encounter>

```

### 3.60 Pathogen Identified Observation

[observation: identifier urn:oid:2.16.840.1.113883.10.20.5.6.145 (closed)]

**Table 236: Pathogen Identified Observation Contexts**

Contained By:	Contains:
<a href="#">Findings Organizer</a> (required) <a href="#">Findings Section in an Infection-Type Report</a> (optional) <a href="#">Findings Section in an OPC Report</a> (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 237: Pathogen Identified Observation Constraints Overview**

XPath	Card.	Verb	Data Type	CONF#	Value
observation (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.145)					
@classCode	1..1	SHALL		<a href="#">86-20909</a>	2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		<a href="#">86-20910</a>	2.16.840.1.113883.5.1001 (ActMood) = EVN
templateId	1..1	SHALL		<a href="#">86-28261</a>	
@root	1..1	SHALL		<a href="#">86-28262</a>	2.16.840.1.113883.10.20.22.4.2
templateId	1..1	SHALL		<a href="#">86-20913</a>	
@root	1..1	SHALL		<a href="#">86-20914</a>	2.16.840.1.113883.10.20.5.6.145
id	1..1	SHALL		<a href="#">86-20915</a>	
@nullFlavor	1..1	SHALL		<a href="#">86-22777</a>	NA
code	1..1	SHALL		<a href="#">86-20916</a>	
@code	1..1	SHALL		<a href="#">86-20917</a>	2.16.840.1.113883.6.1 (LOINC) = 41852-5
statusCode	1..1	SHALL		<a href="#">86-20918</a>	
@code	1..1	SHALL		<a href="#">86-20919</a>	2.16.840.1.113883.5.14 (ActStatus) = completed
effectiveTime	1..1	SHALL		<a href="#">86-22716</a>	
@nullFlavor	1..1	SHALL		<a href="#">86-22778</a>	NA
value	1..1	SHALL	CD	<a href="#">86-20920</a>	2.16.840.1.113883.13.16 (NHSNPathogenCode)

1. Conforms to Result Observation template (identifier: urn: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:86-20909).
3. **SHALL** contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:86-20910).

4. **SHALL** contain exactly one [1..1] **templateId** (CONF:86-28261) such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.22.4.2" (CONF:86-28262).
5. **SHALL** contain exactly one [1..1] **templateId** (CONF:86-20913) such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.5.6.145" (CONF:86-20914).
6. **SHALL** contain exactly one [1..1] **id** (CONF:86-20915).
  - a. This **id** **SHALL** contain exactly one [1..1] **@nullFlavor**="NA" (CONF:86-22777).
7. **SHALL** contain exactly one [1..1] **code** (CONF:86-20916).
  - a. This **code** **SHALL** contain exactly one [1..1] **@code**="41852-5" Microorganism identified (CodeSystem: LOINC 2.16.840.1.113883.6.1 **STATIC**) (CONF:86-20917).
8. **SHALL** contain exactly one [1..1] **statusCode** (CONF:86-20918).
  - a. This **statusCode** **SHALL** contain exactly one [1..1] **@code**="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14 **STATIC**) (CONF:86-20919).
9. **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:86-22716).
  - a. This **effectiveTime** **SHALL** contain exactly one [1..1] **@nullFlavor**="NA" (CONF:86-22778).
10. **SHALL** contain exactly one [1..1] **value** with **@xsi:type**="CD", where the **code** **SHALL** be selected from ValueSet [NHSNPathogenCode](#) 2.16.840.1.113883.13.16 **DYNAMIC** (CONF:86-20920).

**Figure 93: 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>
```

### 3.61 Pathogen Identified Observation (LIO) (V2)

[observation: identifier urn:hl7ii:2.16.840.1.113883.10.20.5.6.146:2014-12-01  
(closed) ]

**Table 238: Pathogen Identified Observation (LIO) (V2) Contexts**

Contained By:	Contains:
<a href="#">Findings Section in a LIO Report (V2)</a> (required)	<a href="#">Bacterial Isolate Tested for Carbapenemase Observation</a> <a href="#">Specimen Collection Procedure (LIO)</a>

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. If the bacterial isolate was one of CRE-Klebsiella (CREKLEB), CRE-Ecoli (CREECOLI), or CRE-Enterobacter (CREENTERO) any tests for carbapenemase are recorded, along with any carbapenemases identified.

**Table 239: Pathogen Identified Observation (LIO) (V2) Constraints Overview**

XPath	Card.	Verb	Data Type	CONF#	Value
observation (identifier: urn:hl7ii:2.16.840.1.113883.10.20.5.6.146:2014-12-01)					
@classCode	1..1	SHALL		<a href="#">1129-19867</a>	2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		<a href="#">1129-19868</a>	2.16.840.1.113883.5.1001 (ActMood) = EVN
templateId	1..1	SHALL		<a href="#">1129-30525</a>	
@root	1..1	SHALL		<a href="#">1129-30526</a>	2.16.840.1.113883.10.20.22.4.2
templateId	1..1	SHALL		<a href="#">1129-19879</a>	
@root	1..1	SHALL		<a href="#">1129-19880</a>	2.16.840.1.113883.10.20.5.6.146
@extension	1..1	SHALL		<a href="#">1129-30527</a>	2014-12-01
id	1..1	SHALL		<a href="#">1129-19881</a>	
@nullFlavor	1..1	SHALL		<a href="#">1129-22774</a>	NA
code	1..1	SHALL		<a href="#">1129-19869</a>	
@code	1..1	SHALL		<a href="#">1129-19870</a>	41852-5
@codeSystem	1..1	SHALL		<a href="#">1129-30436</a>	2.16.840.1.113883.6.1 (LOINC) = 2.16.840.1.113883.6.1
statusCode	1..1	SHALL		<a href="#">1129-19871</a>	
@code	1..1	SHALL		<a href="#">1129-19872</a>	2.16.840.1.113883.5.14 (ActStatus) = completed
effectiveTime	1..1	SHALL		<a href="#">1129-22732</a>	
value	1..1	SHALL	CD	<a href="#">1129-19873</a>	2.16.840.1.114222.4.11.3194 (NHSNSignificantPathogenCode)
entryRelationship	1..1	SHALL		<a href="#">1129-19875</a>	
@typeCode	1..1	SHALL		<a href="#">1129-30434</a>	COMP
procedure	1..1	SHALL		<a href="#">1129-19876</a>	<a href="#">Specimen Collection Procedure (LIO) (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.165)</a>
entryRelationship	0..1	MAY		<a href="#">1129-30416</a>	
@typeCode	1..1	SHALL		<a href="#">1129-</a>	COMP



				<a href="#">30435</a>	
observation	1..1	SHALL		<a href="#">1129-30417</a>	<a href="#">Bacterial Isolate Tested for Carbapenemase Observation (identifier: urn:hl7ii:2.16.840.1.113883.10.20.5.6.222:2014-12-01)</a>

1. Conforms to Result Observation template (identifier: urn: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:1129-19867).
3. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:1129-19868).
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:1129-30525) such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.22.4.2" (CONF:1129-30526).
5. **SHALL** contain exactly one [1..1] **templateId** (CONF:1129-19879) such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.5.6.146" (CONF:1129-19880).
  - b. **SHALL** contain exactly one [1..1] **@extension**="2014-12-01" (CONF:1129-30527).
6. **SHALL** contain exactly one [1..1] **id** (CONF:1129-19881).
  - a. This id **SHALL** contain exactly one [1..1] **@nullFlavor**="NA" (CONF:1129-22774).
7. **SHALL** contain exactly one [1..1] **code** (CONF:1129-19869).
  - a. This code **SHALL** contain exactly one [1..1] **@code**="41852-5" Microorganism identified (CONF:1129-19870).
  - b. 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:1129-30436).
8. **SHALL** contain exactly one [1..1] **statusCode** (CONF:1129-19871).
  - a. This statusCode **SHALL** contain exactly one [1..1] **@code**="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14 **STATIC**) (CONF:1129-19872).
9. **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:1129-22732).
10. **SHALL** contain exactly one [1..1] **value** with **@xsi:type**="CD", where the code **SHALL** be selected from ValueSet [NHSNSignificantPathogenCode](#) 2.16.840.1.114222.4.11.3194 **DYNAMIC** (CONF:1129-19873).
11. **SHALL** contain exactly one [1..1] **entryRelationship** (CONF:1129-19875) such that it
  - a. **SHALL** contain exactly one [1..1] **@typeCode**="COMP" (CONF:1129-30434).
  - b. **SHALL** contain exactly one [1..1] [Specimen Collection Procedure \(LIO\)](#) (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.165) (CONF:1129-19876).

If value is CRE-Klebsiella (CREKLEB), CRE-Ecoli (CREECOLI), or CRE-Enterobacter (CREENTERO), then this entryRelationship is required.

12. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:1129-30416) such that it
  - a. **SHALL** contain exactly one [1..1] **@typeCode**="COMP" (CONF:1129-30435).

- b. **SHALL** contain exactly one [1..1] [Bacterial Isolate Tested for Carbapenemase Observation](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.5.6.222:2014-12-01) (CONF:1129-30417).

**Table 240: 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)
2019-8	cdcNHSN	2.16.840.1.113883.6.277	CRE-Enterobacter
...			

**Figure 94: 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"
    extension="2014-12-01"/>
  <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) -->
      <templateId root="2.16.840.1.113883.10.20.5.6.165" />
      ...
    <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" />
        ...
      </encounter>
    </entryRelationship>
  </procedure>
</entryRelationship>
  <entryRelationship typeCode="COMP">
    <observation classCode="OBS" moodCode="EVN">
      <!-- Bacterial Isolate Tested for Carbapenemase Observation -->
      <templateId root="2.16.840.1.113883.10.20.5.6.222"
        extension="2014-12-01"/>
      ...
    </observation>
  </entryRelationship>
</observation>
```

### 3.62 Pathogen Ranking Observation

[observation: identifier urn:oid:2.16.840.1.113883.10.20.5.6.147 (closed)]

**Table 241: Pathogen Ranking Observation Contexts**

Contained By:	Contains:
<a href="#">Findings Organizer</a> (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 242: Pathogen Ranking Observation Constraints Overview**

XPath	Card.	Verb	Data Type	CONF#	Value
observation (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.147)					
@classCode	1..1	SHALL		<a href="#">86-19787</a>	2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		<a href="#">86-19788</a>	2.16.840.1.113883.5.1001 (ActMood) = EVN
templateId	1..1	SHALL		<a href="#">86-28263</a>	
@root	1..1	SHALL		<a href="#">86-28264</a>	2.16.840.1.113883.10.20.22.4.4
templateId	1..1	SHALL		<a href="#">86-19797</a>	
@root	1..1	SHALL		<a href="#">86-19798</a>	2.16.840.1.113883.10.20.5.6.147
id	1..1	SHALL		<a href="#">86-19799</a>	
@nullFlavor	1..1	SHALL		<a href="#">86-22780</a>	NA
code	1..1	SHALL		<a href="#">86-19789</a>	
@code	1..1	SHALL		<a href="#">86-19790</a>	2.16.840.1.113883.5.4 (ActCode) = ASSERTION
statusCode	1..1	SHALL		<a href="#">86-19791</a>	
@code	1..1	SHALL		<a href="#">86-19792</a>	2.16.840.1.113883.5.14 (ActStatus) = completed
value	1..1	SHALL	CO	<a href="#">86-19793</a>	2.16.840.1.113883.6.277 (cdcNHSN)

1. Conforms to Problem Observation template (identifier: urn: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:86-19787).
3. **SHALL** contain exactly one [1..1] **@moodCode="EVN"** Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:86-19788).
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:86-28263) such that it
  - a. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.22.4.4"** (CONF:86-28264).
5. **SHALL** contain exactly one [1..1] **templateId** (CONF:86-19797) such that it
  - a. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.5.6.147"** (CONF:86-19798).
6. **SHALL** contain exactly one [1..1] **id** (CONF:86-19799).
  - a. This **id** **SHALL** contain exactly one [1..1] **@nullFlavor="NA"** (CONF:86-22780).
7. **SHALL** contain exactly one [1..1] **code** (CONF:86-19789).
  - a. This **code** **SHALL** contain exactly one [1..1] **@code="ASSERTION"** Assertion (CodeSystem: ActCode 2.16.840.1.113883.5.4 **STATIC**) (CONF:86-19790).
8. **SHALL** contain exactly one [1..1] **statusCode** (CONF:86-19791).
  - a. This **statusCode** **SHALL** contain exactly one [1..1] **@code="completed"** Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14 **STATIC**) (CONF:86-19792).
9. **SHALL** contain exactly one [1..1] **value** with **@xsi:type="CO"** (CodeSystem: cdcNHSN 2.16.840.1.113883.6.277 **STATIC**) (CONF:86-19793).
  - a. 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:86-19794).

**Figure 95: 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>
```

### 3.63 PICC/IV Team

[observation: identifier urn:oid:2.16.840.1.113883.10.20.5.6.148 (closed)]

**Table 243: PICC/IV Team Contexts**

Contained By:	Contains:
<a href="#">Procedure Details Clinical Statement in a CLIP Report</a> (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 244: PICC/IV Team Constraints Overview**

XPath	Card.	Verb	Data Type	CONF#	Value
observation (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.148)					
@classCode	1..1	SHALL		<a href="#">86-21214</a>	2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		<a href="#">86-21215</a>	2.16.840.1.113883.5.1001 (ActMood) = EVN
@negationInd	1..1	SHALL		<a href="#">86-21216</a>	
templateId	1..1	SHALL		<a href="#">86-22002</a>	
@root	1..1	SHALL		<a href="#">86-22003</a>	2.16.840.1.113883.10.20.5.6.148
id	1..1	SHALL		<a href="#">86-22004</a>	
@nullFlavor	1..1	SHALL		<a href="#">86-22779</a>	NA
code	1..1	SHALL		<a href="#">86-21217</a>	
@code	1..1	SHALL		<a href="#">86-21218</a>	2.16.840.1.113883.5.4 (ActCode) = ASSERTION
statusCode	1..1	SHALL		<a href="#">86-21219</a>	
@code	1..1	SHALL		<a href="#">86-21220</a>	2.16.840.1.113883.5.4 (ActCode) = completed
value	1..1	SHALL		<a href="#">86-21221</a>	
@code	1..1	SHALL		<a href="#">86-21222</a>	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:86-21214).
2. **SHALL** contain exactly one [1..1] **@moodCode="EVN"** Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:86-21215).
3. **SHALL** contain exactly one [1..1] **@negationInd** (CONF:86-21216).
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:86-22002) such that it
  - a. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.5.6.148"** (CONF:86-22003).
5. **SHALL** contain exactly one [1..1] **id** (CONF:86-22004).
  - a. This id **SHALL** contain exactly one [1..1] **@nullFlavor="NA"** (CONF:86-22779).
6. **SHALL** contain exactly one [1..1] **code** (CONF:86-21217).
  - a. This code **SHALL** contain exactly one [1..1] **@code="ASSERTION"** Assertion (CodeSystem: ActCode 2.16.840.1.113883.5.4 **STATIC**) (CONF:86-21218).
7. **SHALL** contain exactly one [1..1] **statusCode** (CONF:86-21219).
  - a. This statusCode **SHALL** contain exactly one [1..1] **@code="completed"** COMPLETED (CodeSystem: ActCode 2.16.840.1.113883.5.4 **STATIC**) (CONF:86-21220).
8. **SHALL** contain exactly one [1..1] **value** (CONF:86-21221).
  - a. 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:86-21222).

**Figure 96: 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>
```

### 3.64 Positive Blood Culture Observation (V2)

```
[observation: identifier urn:hl7ii:2.16.840.1.113883.10.20.5.6.149:2014-12-01
(closed)]
```

**Table 245: Positive Blood Culture Observation (V2) Contexts**

Contained By:	Contains:
<a href="#">Infection Indicator Organizer (V2)</a> (required)	<a href="#">Blood Collection Location</a> <a href="#">Suspected Source Observation</a>

This clinical statement is an infection indicator. It is used in an Evidence of Infection (Dialysis) Report.

When the positive blood culture was present, set the value of @negationInd to false. When the positive blood culture was not present, set the value of @negationInd to true.



**Table 246: Positive Blood Culture Observation (V2) Constraints Overview**

XPath	Card.	Verb	Data Type	CONF#	Value
observation (identifier: urn:hl7ii:2.16.840.1.113883.10.20.5.6.149:2014-12-01)					
@classCode	1..1	SHALL		<a href="#">1129-19818</a>	2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		<a href="#">1129-19819</a>	2.16.840.1.113883.5.1001 (ActMood) = EVN
@negationInd	1..1	SHALL		<a href="#">1129-19820</a>	
templateId	1..1	SHALL		<a href="#">1129-30528</a>	
@root	1..1	SHALL		<a href="#">1129-30529</a>	2.16.840.1.113883.10.20.22.4.4
templateId	1..1	SHALL		<a href="#">1129-19837</a>	
@root	1..1	SHALL		<a href="#">1129-19838</a>	2.16.840.1.113883.10.20.5.6.149
@extension	1..1	SHALL		<a href="#">1129-30530</a>	2014-12-01
id	1..1	SHALL		<a href="#">1129-19839</a>	
@nullFlavor	1..1	SHALL		<a href="#">1129-22781</a>	NA
code	1..1	SHALL		<a href="#">1129-19821</a>	
@code	1..1	SHALL		<a href="#">1129-19822</a>	2.16.840.1.113883.5.4 (ActCode) = ASSERTION
statusCode	1..1	SHALL		<a href="#">1129-19823</a>	
@code	1..1	SHALL		<a href="#">1129-19824</a>	2.16.840.1.113883.5.14 (ActStatus) = completed
value	1..1	SHALL	CD	<a href="#">1129-19825</a>	
@code	1..1	SHALL		<a href="#">1129-19826</a>	2.16.840.1.113883.6.277 (cdcNHSN) = 1955-4
entryRelationship	1..1	SHOULD		<a href="#">1129-30308</a>	
@typeCode	1..1	SHALL		<a href="#">1129-30309</a>	CAUS
@inversionInd	1..1	SHALL		<a href="#">1129-30310</a>	true
observation	1..1	SHALL		<a href="#">1129-30311</a>	<a href="#">Suspected Source Observation (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.168)</a>
entryRelationship	1..1	SHOULD		<a href="#">1129-</a>	

		D		<a href="#">30312</a>	
@typeCode	1..1	SHALL		<a href="#">1129-30313</a>	COMP
observation	1..1	SHALL		<a href="#">1129-30314</a>	<a href="#">Blood Collection Location (identifier: urn:hl7ii:2.16.840.1.113883.10.20.5.6.219:2014-12-01)</a>

1. Conforms to Problem Observation template (identifier: urn: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:1129-19818).
3. **SHALL** contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:1129-19819).
4. **SHALL** contain exactly one [1..1] @negationInd (CONF:1129-19820).
5. **SHALL** contain exactly one [1..1] templateId (CONF:1129-30528) such that it
  - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.4.4" (CONF:1129-30529).
6. **SHALL** contain exactly one [1..1] templateId (CONF:1129-19837) such that it
  - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.6.149" (CONF:1129-19838).
  - b. **SHALL** contain exactly one [1..1] @extension="2014-12-01" (CONF:1129-30530).
7. **SHALL** contain exactly one [1..1] id (CONF:1129-19839).
  - a. This id **SHALL** contain exactly one [1..1] @nullFlavor="NA" (CONF:1129-22781).
8. **SHALL** contain exactly one [1..1] code (CONF:1129-19821).
  - a. This code **SHALL** contain exactly one [1..1] @code="ASSERTION" Assertion (CodeSystem: ActCode 2.16.840.1.113883.5.4 **STATIC**) (CONF:1129-19822).
9. **SHALL** contain exactly one [1..1] statusCode (CONF:1129-19823).
  - a. This statusCode **SHALL** contain exactly one [1..1] @code="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14 **STATIC**) (CONF:1129-19824).
10. **SHALL** contain exactly one [1..1] value with @xsi:type="CD" (CONF:1129-19825).
  - a. 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:1129-19826).

If the value of @negationInd is "false" this observation is required to contain the following entryRelationship

11. **SHOULD** contain exactly one [1..1] entryRelationship (CONF:1129-30308) such that it
  - a. **SHALL** contain exactly one [1..1] @typeCode="CAUS" (CONF:1129-30309).
  - b. **SHALL** contain exactly one [1..1] @inversionInd="true" (CONF:1129-30310).
  - c. **SHALL** contain exactly one [1..1] [Suspected Source Observation](#) (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.168) (CONF:1129-30311).

If the value of @negationInd is "false" this observation is required to contain the following entryRelationship

12. **SHOULD** contain exactly one [1..1] entryRelationship (CONF:1129-30312) such that it

- a. **SHALL** contain exactly one [1..1] @typeCode="COMP" (CONF:1129-30313).
  - b. **SHALL** contain exactly one [1..1] [Blood Collection Location](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.5.6.219:2014-12-01) (CONF:1129-30314).
13. If the value of @negationInd is 'false' (CONF:1129-19827).
- a. The report **SHALL** contain a Findings Section (CONF:1129-19832).
14. If the value of @negationInd is 'true' (CONF:1129-19833).
- a. The report **SHALL NOT** contain a Findings Section (CONF:1129-19834).

**Figure 97: Positive Blood Culture Observation (V2) 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 (V2) templateId -->
  <templateId root="2.16.840.1.113883.10.20.5.6.149"
    extension="2014-12-01"/>
  <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">
      <!-- C-CDA Problem Observation templateId -->
      <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"/>
      ...
    </observation>
  </entryRelationship>
  <!-- Blood Collection Location -->
  <entryRelationship typeCode="COMP">
    <observation classCode="OBS" moodCode="EVN">
      <templateId root="2.16.840.1.113883.10.20.5.6.219"
        extension="2014-12-01"/>
      ...
    </observation>
  </entryRelationship>
</observation>
```

### 3.65 Positive Test for Carbapenemase Observation

[observation: identifier urn:hl7ii:2.16.840.1.113883.10.20.5.6.225:2014-12-01  
(closed) ]

**Table 247: Positive Test for Carbapenemase Observation Contexts**

Contained By:	Contains:
<a href="#">Bacterial Isolate Tested for Carbapenemase Observation</a> (optional)	<a href="#">Carbapenemase Type Identified Observation</a>

This template represents whether or not the bacterial isolate tested positive for carbapenemase. When the bacterial isolate tested positive, set the value of @negationInd to false. When the bacterial isolate did not test positive, set the value of @negationInd to true. When it is unknown whether or not the bacterial isolate tested positive, set the value of @nullFlavor to "UNK".

**Table 248: Positive Test for Carbapenemase Observation Constraints Overview**

<b>XPath</b>	<b>Card.</b>	<b>Verb</b>	<b>Data Type</b>	<b>CONF#</b>	<b>Value</b>
observation (identifier: urn:hl7ii:2.16.840.1.113883.10.20.5.6.225:2014-12-01)					
@nullFlavor	0..1	MAY		<a href="#">1129-30413</a>	UNK
@classCode	1..1	SHALL		<a href="#">1129-30410</a>	2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		<a href="#">1129-30411</a>	2.16.840.1.113883.5.1001 (ActMood) = EVN
@negationInd	0..1	SHOULD		<a href="#">1129-30412</a>	
templateId	1..1	SHALL		<a href="#">1129-30396</a>	
@root	1..1	SHALL		<a href="#">1129-30405</a>	2.16.840.1.113883.10.20.22.4.2
templateId	1..1	SHALL		<a href="#">1129-30531</a>	
@root	1..1	SHALL		<a href="#">1129-30532</a>	2.16.840.1.113883.10.20.5.6.225
@extension	1..1	SHALL		<a href="#">1129-30533</a>	2014-12-01
id	1..1	SHALL		<a href="#">1129-30397</a>	
@nullFlavor	1..1	SHALL		<a href="#">1129-30407</a>	NA
code	1..1	SHALL		<a href="#">1129-30393</a>	
@code	1..1	SHALL		<a href="#">1129-30402</a>	2.16.840.1.113883.5.4 (ActCode) = ASSERTION
statusCode	1..1	SHALL		<a href="#">1129-30394</a>	
@code	1..1	SHALL		<a href="#">1129-30403</a>	2.16.840.1.113883.5.14 (ActStatus) = completed
effectiveTime	1..1	SHALL		<a href="#">1129-30589</a>	
@nullFlavor	1..1	SHALL		<a href="#">1129-30590</a>	2.16.840.1.113883.5.1008 (HL7NullFlavor) = NA
value	1..1	SHALL	CD	<a href="#">1129-30395</a>	
@code	1..1	SHALL		<a href="#">1129-30404</a>	2048-7
@codeSystem	1..1	SHALL		<a href="#">1129-30441</a>	2.16.840.1.113883.6.277 (cdcNHSN) = 2.16.840.1.113883.6.277
entryRelationship	0..*	SHOULD		<a href="#">1129-30392</a>	

@typeCode	1..1	SHALL		<a href="#">1129-30400</a>	COMP
observation	1..1	SHALL		<a href="#">1129-30462</a>	<a href="#">Carbapenemase Type Identified Observation (identifier: urn:hl7ii:2.16.840.1.113883.10.20.5.6.226:2014-12-01)</a>

1. Conforms to Result Observation template (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.2).

When it is unknown whether or not the bacterial isolate tested positive, set the value of @nullFlavor to "UNK".

2. **MAY** contain zero or one [0..1] @nullFlavor="UNK" (CONF:1129-30413).
3. **SHALL** contain exactly one [1..1] @classCode="OBS" Observation (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 **STATIC**) (CONF:1129-30410).
4. **SHALL** contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:1129-30411).

When the bacterial isolate tested positive, set the value of @negationInd to false. When the bacterial isolate did not test positive, set the value of @negationInd to true.

5. **SHOULD** contain zero or one [0..1] @negationInd (CONF:1129-30412).
6. **SHALL** contain exactly one [1..1] templateId (CONF:1129-30396) such that it
  - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.4.2" (CONF:1129-30405).
7. **SHALL** contain exactly one [1..1] templateId (CONF:1129-30531) such that it
  - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.6.225" (CONF:1129-30532).
  - b. **SHALL** contain exactly one [1..1] @extension="2014-12-01" (CONF:1129-30533).
8. **SHALL** contain exactly one [1..1] id (CONF:1129-30397).
  - a. This id **SHALL** contain exactly one [1..1] @nullFlavor="NA" (CONF:1129-30407).
9. **SHALL** contain exactly one [1..1] code (CONF:1129-30393).
  - a. This code **SHALL** contain exactly one [1..1] @code="ASSERTION" Assertion (CodeSystem: ActCode 2.16.840.1.113883.5.4 **STATIC**) (CONF:1129-30402).
10. **SHALL** contain exactly one [1..1] statusCode (CONF:1129-30394).
  - a. This statusCode **SHALL** contain exactly one [1..1] @code="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14 **STATIC**) (CONF:1129-30403).
11. **SHALL** contain exactly one [1..1] effectiveTime (CONF:1129-30589).
  - a. This effectiveTime **SHALL** contain exactly one [1..1] @nullFlavor="NA" (CodeSystem: HL7NullFlavor 2.16.840.1.113883.5.1008) (CONF:1129-30590).
12. **SHALL** contain exactly one [1..1] value with @xsi:type="CD" (CONF:1129-30395).
  - a. This value **SHALL** contain exactly one [1..1] @code="2048-7" Isolate tested positive for carbapenemase (CONF:1129-30404).
  - b. 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:1129-30441).

If the value of @negationInd is "false" this observation is required to contain at least one of the following entryRelationships.

13. **SHOULD** contain zero or more [0..\*] **entryRelationship** (CONF:1129-30392) such that it
  - a. **SHALL** contain exactly one [1..1] **@typeCode="COMP"** (CONF:1129-30400).
  - b. **SHALL** contain exactly one [1..1] **Carbapenemase Type Identified Observation** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.5.6.226:2014-12-01) (CONF:1129-30462).

**Figure 98: Positive Test for Carbapenemase Observation Example**

```
<observation classCode="OBS" moodCode="EVN" negationInd="false">
  <!-- C-CDA Result Observation templateId -->
  <templateId root="2.16.840.1.113883.10.20.22.4.2" />
  <!-- Positive Test for Carbapenemase Observation templateId-->
  <templateId root="2.16.840.1.113883.10.20.5.6.225"
    extension="2014-12-01"/>
  <id nullFlavor="NA"/>
  <code code="ASSERTION" codeSystem="2.16.840.1.113883.5.4"
    codeSystemName="ActCode"/>
  <statusCode code="completed"/>
  <effectiveTime nullFlavor="NA"/>
  <value xsi:type="CD" code="2048-7"
    displayName="Isolate tested positive for carbapenemase"
    codeSystem="2.16.840.1.113883.6.277"
    codeSystemName="cdcNHSN"/>
  <entryRelationship typeCode="COMP">
    <!-- Carbapenemase Type Identified Observation -->
    <observation classCode="OBS" moodCode="EVN">
      <!-- C-CDA Result Observation templateId -->
      <templateId root="2.16.840.1.113883.10.20.22.4.2"/>
      <!-- Carbapenemase Type Identified Observation templateId-->
      <templateId root="2.16.840.1.113883.10.20.5.6.226"
        extension="2014-12-01"/>
      ...
    </observation>
  </entryRelationship>
  <entryRelationship typeCode="COMP">
    <!-- Carbapenemase Type Identified Observation -->
    <observation classCode="OBS" moodCode="EVN">
      <!-- C-CDA Result Observation templateId -->
      <templateId root="2.16.840.1.113883.10.20.22.4.2"/>
      <!-- Carbapenemase Type Identified Observation templateId-->
      <templateId root="2.16.840.1.113883.10.20.5.6.226"
        extension="2014-12-01"/>
      ...
    </observation>
  </entryRelationship>
</observation>
```

### 3.66 Post-Procedure Observation

[observation: identifier urn:oid:2.16.840.1.113883.10.20.5.6.150 (closed)]

**Table 249: Post-Procedure Observation Contexts**

Contained By:	Contains:
<a href="#">Infection Details Section in a BSI Report</a> (optional) <a href="#">Infection Details Section in a UTI Report</a> (optional)	<a href="#">Procedure Details Clinical Statement in an Infection-Type Report</a>

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 250: Post-Procedure Observation Constraints Overview**

XPath	Card.	Verb	Data Type	CONF#	Value
observation (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.150)					
@classCode	1..1	SHALL		<a href="#">86-19715</a>	2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		<a href="#">86-19716</a>	2.16.840.1.113883.5.1001 (ActMood) = EVN
@negationInd	1..1	SHALL		<a href="#">86-19717</a>	
templateId	1..1	SHALL		<a href="#">86-28265</a>	
@root	1..1	SHALL		<a href="#">86-28266</a>	2.16.840.1.113883.10.20.22.4.4
templateId	1..1	SHALL		<a href="#">86-19742</a>	
@root	1..1	SHALL		<a href="#">86-19743</a>	2.16.840.1.113883.10.20.5.6.150
id	1..1	SHALL		<a href="#">86-19882</a>	
@nullFlavor	1..1	SHALL		<a href="#">86-22782</a>	NA
code	1..1	SHALL		<a href="#">86-19719</a>	
@code	1..1	SHALL		<a href="#">86-19720</a>	2.16.840.1.113883.5.4 (ActCode) = ASSERTION
statusCode	1..1	SHALL		<a href="#">86-19721</a>	
@code	1..1	SHALL		<a href="#">86-19722</a>	2.16.840.1.113883.5.14 (ActStatus) = completed
value	1..1	SHALL	CD	<a href="#">86-19784</a>	
@code	1..1	SHALL		<a href="#">86-19785</a>	3188-0
@codeSystem	1..1	SHALL		<a href="#">86-19786</a>	2.16.840.1.113883.6.277 (cdcNHSN) = 2.16.840.1.113883.6.277
entryRelationship	0..1	SHOULD		<a href="#">86-19725</a>	
@typeCode	1..1	SHALL		<a href="#">86-19726</a>	2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR
procedure	1..1	SHALL		<a href="#">86-19727</a>	<a href="#">Procedure Details Clinical Statement in an Infection-Type Report (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.154</a>

1. Conforms to Problem Observation template (identifier: urn: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:86-19715).
3. **SHALL** contain exactly one [1..1] **@moodCode="EVN"** Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:86-19716).
4. **SHALL** contain exactly one [1..1] **@negationInd** (CONF:86-19717).
5. **SHALL** contain exactly one [1..1] **templateId** (CONF:86-28265) such that it
  - a. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.22.4.4"** (CONF:86-28266).
6. **SHALL** contain exactly one [1..1] **templateId** (CONF:86-19742) such that it
  - a. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.5.6.150"** (CONF:86-19743).
7. **SHALL** contain exactly one [1..1] **id** (CONF:86-19882).
  - a. This id **SHALL** contain exactly one [1..1] **@nullFlavor="NA"** (CONF:86-22782).
8. **SHALL** contain exactly one [1..1] **code** (CONF:86-19719).
  - a. This code **SHALL** contain exactly one [1..1] **@code="ASSERTION"** Assertion (CodeSystem: ActCode 2.16.840.1.113883.5.4 **STATIC**) (CONF:86-19720).
9. **SHALL** contain exactly one [1..1] **statusCode** (CONF:86-19721).
  - a. This statusCode **SHALL** contain exactly one [1..1] **@code="completed"** Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14 **STATIC**) (CONF:86-19722).
10. **SHALL** contain exactly one [1..1] **value** with **@xsi:type="CD"** (CONF:86-19784).
  - a. This value **SHALL** contain exactly one [1..1] **@code="3188-0"** Infection occurred post-procedure (CONF:86-19785).
  - b. 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:86-19786).
11. **SHOULD** contain zero or one [0..1] **entryRelationship** (CONF:86-19725).
  - a. The entryRelationship, if present, **SHALL** contain exactly one [1..1] **@typeCode="REFR"** (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002 **STATIC**) (CONF:86-19726).
  - b. The entryRelationship, if present, **SHALL** contain exactly one [1..1] [Procedure Details Clinical Statement in an Infection-Type Report](#) (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.154) (CONF:86-19727).
  - c. If the value of **@negationInd** is false this entryRelationship **SHALL** be present (CONF:86-19728).

**Figure 99: 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>
```

### 3.67 Primary C. Difficile Testing Method This Quarter

```
[observation: identifier urn:hl7ii:2.16.840.1.113883.10.20.5.6.221:2014-12-01
(closed)]
```

**Table 251: Primary C. Difficile Testing Method This Quarter Contexts**

Contained By:	Contains:
<a href="#">Summary Data Section (POM) (V2)</a> (optional)	

This template represents the primary testing method for C. difficile that is used most often for this quarter by the facility's laboratory or by the outside laboratory where the facility's testing is performed.

If the testing method is other than one specified in NHSNCdiffTestMethod value set, use value/@nullFlavor="OTH" and enter the testing method in value/originalText.

**Table 252: Primary C. Difficile Testing Method This Quarter Constraints Overview**

XPath	Card.	Verb	Data Type	CONF#	Value
observation (identifier: urn:hl7ii:2.16.840.1.113883.10.20.5.6.221:2014-12-01)					
@classCode	1..1	SHALL		<a href="#">1129-30327</a>	2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		<a href="#">1129-30328</a>	2.16.840.1.113883.5.1001 (ActMood) = EVN
templateId	1..1	SHALL		<a href="#">1129-30534</a>	
@root	1..1	SHALL		<a href="#">1129-30535</a>	2.16.840.1.113883.10.20.5.6.221
@extension	1..1	SHALL		<a href="#">1129-30536</a>	2014-12-01
code	1..1	SHALL		<a href="#">1129-30318</a>	
@code	1..1	SHALL		<a href="#">1129-30323</a>	2029-7
@codeSystem	1..1	SHALL		<a href="#">1129-30324</a>	2.16.840.1.113883.6.277 (cdcNHSN) = 2.16.840.1.113883.6.277
statusCode	1..1	SHALL		<a href="#">1129-30320</a>	
@code	1..1	SHALL		<a href="#">1129-30326</a>	2.16.840.1.113883.5.14 (ActStatus) = completed
value	1..1	SHALL	CD	<a href="#">1129-30329</a>	2.16.840.1.114222.4.11.7242 (NHSNCdiffTestMethod)
@nullFlavor	0..1	MAY		<a href="#">1129-30331</a>	OTH
originalText	0..1	MAY		<a href="#">1129-30332</a>	

1. **SHALL** contain exactly one [1..1] @classCode="OBS" (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 **STATIC**) (CONF:1129-30327).
2. **SHALL** contain exactly one [1..1] @moodCode="EVN" (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:1129-30328).
3. **SHALL** contain exactly one [1..1] templateId (CONF:1129-30534) such that it
  - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.6.221" (CONF:1129-30535).
  - b. **SHALL** contain exactly one [1..1] @extension="2014-12-01" (CONF:1129-30536).
4. **SHALL** contain exactly one [1..1] code (CONF:1129-30318).
  - a. This code **SHALL** contain exactly one [1..1] @code="2029-7" C. difficile primary testing method used most often for this quarter (CONF:1129-30323).

- b. 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 **STATIC**) (CONF:1129-30324).
5. **SHALL** contain exactly one [1..1] **statusCode** (CONF:1129-30320).
  - a. This statusCode **SHALL** contain exactly one [1..1] **@code**="completed" Completed  
(CodeSystem: ActStatus 2.16.840.1.113883.5.14 **STATIC**) (CONF:1129-30326).
6. **SHALL** contain exactly one [1..1] **value** with **@xsi:type**="CD", where the code **SHOULD** be  
selected from ValueSet NHSNCdiffTestMethod 2.16.840.1.114222.4.11.7242 **DYNAMIC**  
(CONF:1129-30329).

If the testing method is other than one specified in NHSN, use nullFlavor="OTH" and enter testing method in originalText.

- a. This value **MAY** contain zero or one [0..1] **@nullFlavor**="OTH" (CONF:1129-30331).

If nullFlavor="OTH" then the testing method is to be entered in originalText.

- b. This value **MAY** contain zero or one [0..1] **originalText** (CONF:1129-30332).

**Table 253: NHSNCdiffTestMethod**

Value Set: NHSNCdiffTestMethod 2.16.840.1.114222.4.11.7242			
Testing method for C. difficile.			
Value Set Source: <a href="http://www.phinvads.com">http://www.phinvads.com</a>			
Code	Code System	Code System OID	Print Name
2030-5	cdcNHSN	2.16.840.1.113883.6.277	EIA - Enzyme immunoassay (EIA) for toxin
2031-3	cdcNHSN	2.16.840.1.113883.6.277	Cyto - Cell cytotoxicity neutralization assay
2032-1	cdcNHSN	2.16.840.1.113883.6.277	NAAT - Nucleic acid amplification test (NAAT)
2033-9	cdcNHSN	2.16.840.1.113883.6.277	GDH - Glutamate dehydrogenase (GDH) antigen plus EIA for toxin
2034-7	cdcNHSN	2.16.840.1.113883.6.277	GDHNAAT - GDH plus NAAT
2035-4	cdcNHSN	2.16.840.1.113883.6.277	GDHEIA - GDH plus EIA for toxin, followed by NAAT for discrepant results
2036-2	cdcNHSN	2.16.840.1.113883.6.277	ToxiCul - Toxigenic culture
...			

**Figure 100: Primary C. Difficile Testing Method This Quarter Example**

```
<observation classCode="OBS" moodCode="EVN">
  <!-- Primary C. Difficile Testing Method This Quarter templateId -->
  <templateId root="2.16.840.1.113883.10.20.5.6.221"
    extension="2014-12-01"/>
  <code codeSystem="2.16.840.1.113883.6.277"
    codeSystemName="cdcNHSN"
    code="2029-7"
    displayName="C. difficile primary testing method used most often for this
      quarter"/>
  <statusCode code="completed"/>
  <value xsi:type="CD" codeSystem="2.16.840.1.113883.6.277"
    codeSystemName="cdcNHSN"
    code="2034-7"
    displayName="GDHNAAT - GDH plus NAAT"/>
</observation>
```

**Figure 101: Primary C. Difficile Testing Method This Quarter - Other Example**

```
<observation classCode="OBS" moodCode="EVN">
  <!-- Primary C. Difficile Testing Method This Quarter templateId -->
  <templateId root="2.16.840.1.113883.10.20.5.6.221"
    extension="2014-12-01" />
  <code codeSystem="2.16.840.1.113883.6.277"
    codeSystemName="cdcNHSN"
    code="2029-7"
    displayName="C. difficile primary testing method used most often for this quarter" />
  <statusCode code="completed" />
  <value xsi:type="CD" nullFlavor="OTH">
    <originalText>
      Testing method other than one specified in NHSN value set
    </originalText>
  </value>
</observation>
```

### 3.68 Prior Discharge Encounter (V2)

```
[encounter: identifier urn:hl7ii:2.16.840.1.113883.10.20.5.6.151:2014-12-01
(closed)]
```

**Table 254: Prior Discharge Encounter (V2) Contexts**

Contained By:	Contains:
<a href="#">Encounters Section in a LIO Report (V2)</a> (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 the past four weeks. If the Prior Discharge Encounter is not applicable, use nullFlavor="NA".

**Table 255: Prior Discharge Encounter (V2) Constraints Overview**

XPath	Card.	Verb	Data Type	CONF#	Value
encounter (identifier: urn:hl7ii:2.16.840.1.113883.10.20.5.6.151:2014-12-01)					
@nullFlavor	0..1	MAY		<a href="#">1129-30478</a>	NA
@classCode	1..1	SHALL		<a href="#">1129-21703</a>	2.16.840.1.113883.5.6 (HL7ActClass) = ENC
@moodCode	1..1	SHALL		<a href="#">1129-21704</a>	2.16.840.1.113883.5.1001 (ActMood) = EVN
templateId	1..1	SHALL		<a href="#">1129-30488</a>	
@root	1..1	SHALL		<a href="#">1129-30489</a>	2.16.840.1.113883.10.20.22.4.49
templateId	1..1	SHALL		<a href="#">1129-21714</a>	
@root	1..1	SHALL		<a href="#">1129-21715</a>	2.16.840.1.113883.10.20.5.6.151
@extension	1..1	SHALL		<a href="#">1129-30275</a>	2014-12-01
id	1..*	SHALL		<a href="#">1129-21705</a>	
@nullFlavor	1..1	SHALL		<a href="#">1129-21706</a>	NA
code	1..1	SHALL		<a href="#">1129-21707</a>	
@code	1..1	SHALL		<a href="#">1129-21708</a>	2.16.840.1.113883.5.4 (ActCode) = IMP
effectiveTime	1..1	SHALL		<a href="#">1129-21709</a>	
@nullFlavor	0..1	MAY		<a href="#">1129-30490</a>	NA
high	0..0	SHOULD		<a href="#">1129-30423</a>	
@value	1..1	SHALL		<a href="#">1129-21711</a>	

1. Conforms to Encounter Activities template (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.49).

Use nullFlavor="NA" where the prior discharge encounter is not applicable.

2. **MAY** contain zero or one [0..1] @nullFlavor="NA" (CONF:1129-30478).
3. **SHALL** contain exactly one [1..1] @classCode="ENC" Encounter (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 **STATIC**) (CONF:1129-21703).
4. **SHALL** contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:1129-21704).

5. **SHALL** contain exactly one [1..1] **templateId** (CONF:1129-30488) such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.22.4.49" (CONF:1129-30489).
6. **SHALL** contain exactly one [1..1] **templateId** (CONF:1129-21714) such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.5.6.151" (CONF:1129-21715).
  - b. **SHALL** contain exactly one [1..1] **@extension**="2014-12-01" (CONF:1129-30275).
7. **SHALL** contain at least one [1..\*] **id** (CONF:1129-21705).
  - a. Such ids **SHALL** contain exactly one [1..1] **@nullFlavor**="NA" (CONF:1129-21706).
8. **SHALL** contain exactly one [1..1] **code** (CONF:1129-21707).
  - a. This code **SHALL** contain exactly one [1..1] **@code**="IMP" Inpatient encounter (CodeSystem: ActCode 2.16.840.1.113883.5.4 **STATIC**) (CONF:1129-21708).
9. **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:1129-21709).

Use nullFlavor="NA" where the prior discharge encounter is not applicable.

- a. This effectiveTime **MAY** contain zero or one [0..1] **@nullFlavor**="NA" (CONF:1129-30490).
- b. This effectiveTime **SHOULD** contain [0..0] **high** (CONF:1129-30423).

This date must be within the past four weeks.

- i. The high, if present, **SHALL** contain exactly one [1..1] **@value** (CONF:1129-21711).

**Figure 102: Prior Discharge Encounter (V2) Example**

```
<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 (V2) template -->
  <templateId root="2.16.840.1.113883.10.20.5.6.151"
    extension="2014-12-01"/>
  <id nullFlavor="NA" />
  <code codeSystem="2.16.840.1.113883.5.4"
    code="IMP"
    displayName="Inpatient encounter" />
  <effectiveTime>
    <high value="20081205"/>
  </effectiveTime>
</encounter>
```



**Figure 103: Prior Discharge Encounter (V2) - Not Applicable Example**

```
<encounter classCode="ENC" moodCode="EVN" nullFlavor="NA">
  <!-- CCD Encounter activity templateId -->
  <templateId root="2.16.840.1.113883.10.20.22.4.49" />
  <!-- HAI Prior Discharge Encounter (V2) templateId -->
  <templateId root="2.16.840.1.113883.10.20.5.6.151"
    extension="2014-12-01" />
  <id nullFlavor="NA" />
  <code codeSystem="2.16.840.1.113883.5.4"
    code="IMP"
    displayName="Inpatient encounter" />
  <effectiveTime nullFlavor="NA" />
</encounter>
```

### 3.69 Procedure Category

[procedure: identifier urn:oid:2.16.840.1.113883.10.20.5.6.215 (closed)]

**Table 256: Procedure Category Contexts**

Contained By:	Contains:
<a href="#">Surgical Site Infection Details Section in an OPC Report</a> (optional) <a href="#">Summary Data Observation (OPC)</a> (optional)	

This template records the NHSN Procedure Category.

**Table 257: Procedure Category Constraints Overview**

XPath	Card.	Verb	Data Type	CONF#	Value
procedure (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.215)					
@classCode	1..1	SHALL		<a href="#">1113-21846</a>	2.16.840.1.113883.5.6 (HL7ActClass) = PROC
@moodCode	1..1	SHALL		<a href="#">1113-21847</a>	2.16.840.1.113883.5.1001 (ActMood) = EVN
templateId	1..1	SHALL		<a href="#">1113-21862</a>	
@root	1..1	SHALL		<a href="#">1113-21863</a>	2.16.840.1.113883.10.20.22.4.14
templateId	1..1	SHALL		<a href="#">1113-21842</a>	
@root	1..1	SHALL		<a href="#">1113-21845</a>	2.16.840.1.113883.10.20.5.6.215
id	1..1	SHALL		<a href="#">1113-21848</a>	
@nullFlavor	0..1	MAY		<a href="#">1113-21854</a>	NA
code	1..1	SHALL		<a href="#">1113-21841</a>	2.16.840.1.113883.13.17 (NHSNProcedureCategoryCode)
translation	0..1	MAY		<a href="#">1113-21859</a>	2.16.840.1.113883.6.12 (CPT4)
statusCode	1..1	SHALL		<a href="#">1113-21843</a>	
@code	1..1	SHALL		<a href="#">1113-21849</a>	2.16.840.1.113883.5.14 (ActStatus) = completed

1. Conforms to Procedure Activity Procedure template (identifier: urn: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:1113-21846).
3. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:1113-21847).
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:1113-21862) such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.22.4.14" (CONF:1113-21863).
5. **SHALL** contain exactly one [1..1] **templateId** (CONF:1113-21842) such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.5.6.215" (CONF:1113-21845).
6. **SHALL** contain exactly one [1..1] **id** (CONF:1113-21848).
  - a. This id **MAY** contain zero or one [0..1] **@nullFlavor**="NA" (CONF:1113-21854).
7. **SHALL** contain exactly one [1..1] **code**, which **SHALL** be selected from ValueSet [NHSNProcedureCategoryCode](#) 2.16.840.1.113883.13.17 **DYNAMIC** (CONF:1113-21841).

- a. This code **MAY** contain zero or one [0..1] **translation**, which **SHALL** be selected from CodeSystem CPT4 (2.16.840.1.113883.6.12) **DYNAMIC** (CONF:1113-21859).
    - i. If this template is used in the HAI Outpatient Procedure Component (OPC) Event Report, then the translation **SHALL** be present (CONF:1113-21860).
- 8. **SHALL** contain exactly one [1..1] **statusCode** (CONF:1113-21843).
  - a. This statusCode **SHALL** contain exactly one [1..1] **@code="completed"** Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14 **STATIC**) (CONF:1113-21849).

**Table 258: 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
...			

**Figure 104: Procedure Category Example**

```
<procedure classCode="PROC" moodCode="EVN">
  <!-- C-CDA Procedure Activity Procedure templateId -->
  <templateId root="2.16.840.1.113883.10.20.22.4.14" />
  <!-- Procedure Category templateId -->
  <templateId root="2.16.840.1.113883.10.20.5.6.215" />
  <id nullFlavor="NA" />
  <code code="2129-5"
    codeSystem="2.16.840.1.113883.6.277"
    codeSystemName="cdcNHSN"
    displayName="Open reduction of fracture"></code>
  <statusCode code="completed" />
</procedure>
```

### 3.70 Procedure Details Clinical Statement in a CLIP Report

[procedure: identifier urn:oid:2.16.840.1.113883.10.20.5.6.155 (closed)]

**Table 259: Procedure Details Clinical Statement in a CLIP Report Contexts**

Contained By:	Contains:
<a href="#">Procedure Details Section in a CLIP Report</a> (required)	<a href="#">PICC/IV Team</a> <a href="#">Reason for Procedure Observation</a> <a href="#">Recorder Observation</a>

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 260: Procedure Details Clinical Statement in a CLIP Report Constraints Overview**

<b>XPath</b>	<b>Card.</b>	<b>Verb</b>	<b>Data Type</b>	<b>CONF#</b>	<b>Value</b>
procedure (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.155)					
@classCode	1..1	SHALL		<a href="#">86-21605</a>	2.16.840.1.113883.5.6 (HL7ActClass) = PROC
@moodCode	1..1	SHALL		<a href="#">86-21606</a>	2.16.840.1.113883.5.1001 (ActMood) = EVN
templateId	1..1	SHALL		<a href="#">86-28267</a>	
@root	1..1	SHALL		<a href="#">86-28268</a>	2.16.840.1.113883.10.20.22.4.14
templateId	1..1	SHALL		<a href="#">86-21637</a>	
@root	1..1	SHALL		<a href="#">86-21638</a>	2.16.840.1.113883.10.20.5.6.155
id	1..1	SHALL		<a href="#">86-21639</a>	
@nullFlavor	1..1	SHALL		<a href="#">86-22784</a>	NA
code	1..1	SHALL		<a href="#">86-21607</a>	
@code	1..1	SHALL		<a href="#">86-21608</a>	2.16.840.1.113883.6.96 (SNOMED CT) = 233527006
statusCode	1..1	SHALL		<a href="#">86-21609</a>	2.16.840.1.113883.11.20.9.22 (ProcedureAct statusCode)
effectiveTime	1..1	SHALL		<a href="#">86-21610</a>	
targetSiteCode	1..1	SHALL		<a href="#">86-21611</a>	2.16.840.1.114222.4.11.3180 (NHSNInsertionSiteCode)
performer	1..1	SHALL		<a href="#">86-21613</a>	
assignedEntity	1..1	SHALL		<a href="#">86-21614</a>	
id	1..1	SHALL		<a href="#">86-21615</a>	
code	1..1	SHALL		<a href="#">86-21617</a>	
participant	1..1	SHALL		<a href="#">86-21619</a>	
@typeCode	1..1	SHALL		<a href="#">86-21620</a>	2.16.840.1.113883.5.90 (HL7ParticipationType) = DEV
participantRole	1..1	SHALL		<a href="#">86-21621</a>	
@classCode	1..1	SHALL		<a href="#">86-21622</a>	2.16.840.1.113883.5.110 (RoleClass) = MANU

playingDevice	1..1	SHALL		<a href="#">86-21623</a>	
code	1..1	SHALL		<a href="#">86-21624</a>	
entryRelationship	1..1	SHALL		<a href="#">86-21626</a>	
@typeCode	1..1	SHALL		<a href="#">86-21627</a>	2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = COMP
observation	1..1	SHALL		<a href="#">86-21628</a>	<a href="#">Recorder Observation (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.159)</a>
entryRelationship	1..1	SHALL		<a href="#">86-21629</a>	
@typeCode	1..1	SHALL		<a href="#">86-21630</a>	2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = RSON
observation	1..1	SHALL		<a href="#">86-21631</a>	<a href="#">Reason for Procedure Observation (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.158)</a>
entryRelationship	1..1	SHALL		<a href="#">86-21632</a>	
@typeCode	1..1	SHALL		<a href="#">86-21633</a>	2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = COMP
observation	1..1	SHALL		<a href="#">86-21634</a>	<a href="#">PICC/IV Team (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.148)</a>

1. Conforms to Procedure Activity Procedure template (identifier: urn: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:86-21605).
3. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:86-21606).
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:86-28267) such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.22.4.14" (CONF:86-28268).
5. **SHALL** contain exactly one [1..1] **templateId** (CONF:86-21637) such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.5.6.155" (CONF:86-21638).
6. **SHALL** contain exactly one [1..1] **id** (CONF:86-21639).
  - a. This id **SHALL** contain exactly one [1..1] **@nullFlavor**="NA" (CONF:86-22784).
7. **SHALL** contain exactly one [1..1] **code** (CONF:86-21607).

- a. 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:86-21608).
8. **SHALL** contain exactly one [1..1] **statusCode**, which **SHALL** be selected from ValueSet [ProcedureAct statusCode](#) 2.16.840.1.113883.11.20.9.22 **DYNAMIC** (CONF:86-21609).
9. **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:86-21610).
10. **SHALL** contain exactly one [1..1] **targetSiteCode**, which **SHALL** be selected from ValueSet [NHSNInsertionSiteCode](#) 2.16.840.1.114222.4.11.3180 **DYNAMIC** (CONF:86-21611).
11. **SHALL** contain exactly one [1..1] **performer** (CONF:86-21613).
  - a. This performer **SHALL** contain exactly one [1..1] **assignedEntity** (CONF:86-21614).
    - i. This assignedEntity **SHALL** contain exactly one [1..1] **id** (CONF:86-21615).
      1. If the performer ID is not known, the value of performer/assignedEntity/id/@nullFlavor **SHALL** be UNK (CONF:86-21616).
    - ii. This assignedEntity **SHALL** contain exactly one [1..1] **code** (CONF:86-21617).
      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:86-21618).
12. **SHALL** contain exactly one [1..1] **participant** (CONF:86-21619).
  - a. This participant **SHALL** contain exactly one [1..1] **@typeCode**="DEV" Device (CodeSystem: HL7ParticipationType 2.16.840.1.113883.5.90 **STATIC**) (CONF:86-21620).
  - b. This participant **SHALL** contain exactly one [1..1] **participantRole** (CONF:86-21621).
    - i. This participantRole **SHALL** contain exactly one [1..1] **@classCode**="MANU" Manufactured product (CodeSystem: RoleClass 2.16.840.1.113883.5.110 **STATIC**) (CONF:86-21622).
    - ii. This participantRole **SHALL** contain exactly one [1..1] **playingDevice** (CONF:86-21623).
      1. This playingDevice **SHALL** contain exactly one [1..1] **code** (CONF:86-21624).
        - a. 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 NSNCatheterTypeCode **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:86-21625).
13. **SHALL** contain exactly one [1..1] **entryRelationship** (CONF:86-21626) such that it
  - a. **SHALL** contain exactly one [1..1] **@typeCode**="COMP" Has component (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002 **STATIC**) (CONF:86-21627).



- b. **SHALL** contain exactly one [1..1] Recorder Observation (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.159) (CONF:86-21628).
- 14. **SHALL** contain exactly one [1..1] **entryRelationship** (CONF:86-21629) such that it
  - a. **SHALL** contain exactly one [1..1] **@typeCode="RSON"** Has reason (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002 **STATIC**) (CONF:86-21630).
  - b. **SHALL** contain exactly one [1..1] Reason for Procedure Observation (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.158) (CONF:86-21631).
- 15. **SHALL** contain exactly one [1..1] **entryRelationship** (CONF:86-21632) such that it
  - a. **SHALL** contain exactly one [1..1] **@typeCode="COMP"** Has component (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002 **STATIC**) (CONF:86-21633).
  - b. **SHALL** contain exactly one [1..1] PICC/IV Team (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.148) (CONF:86-21634).

**Table 261: 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			
Value Set Source: <a href="http://www.hl7.org">http://www.hl7.org</a>			
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 262: 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 263: 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 264: 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 105: 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>

```

### 3.71 Procedure Details Clinical Statement in a Procedure Report (V2)

```
[procedure: identifier urn:oid:2.16.840.1.113883.10.20.5.6.153.2 (closed)]
```

**Table 265: Procedure Details Clinical Statement in a Procedure Report (V2) Contexts**

Contained By:	Contains:
<a href="#">Procedure Details Section in a Procedure Report (V2)</a> (required)	<a href="#">Anesthesia Administration Clinical Statement</a> <a href="#">Closure Technique Procedure</a> <a href="#">Revision Associated with Prior Infection Observation</a> <a href="#">Spinal Fusion Level Observation</a>

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 266: Procedure Details Clinical Statement in a Procedure Report (V2) Constraints Overview**

<b>XPath</b>	<b>Card.</b>	<b>Verb</b>	<b>Data Type</b>	<b>CONF#</b>	<b>Value</b>
procedure (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.153.2)					
@classCode	1..1	SHALL		<a href="#">1101-21654</a>	2.16.840.1.113883.5.6 (HL7ActClass) = PROC
@moodCode	1..1	SHALL		<a href="#">1101-21655</a>	2.16.840.1.113883.5.1001 (ActMood) = EVN
templateId	1..1	SHALL		<a href="#">1101-30303</a>	
@root	1..1	SHALL		<a href="#">1101-30304</a>	2.16.840.1.113883.10.20.22.4.14
templateId	1..1	SHALL		<a href="#">1101-21695</a>	
@root	1..1	SHALL		<a href="#">1101-30250</a>	2.16.840.1.113883.10.20.5.6.153.2
id	1..1	SHALL		<a href="#">1101-21656</a>	
code	1..1	SHALL		<a href="#">1101-21657</a>	2.16.840.1.113883.13.17 (NHSNProcedureCategoryCode)
translation	0..1	MAY		<a href="#">1101-21698</a>	
statusCode	1..1	SHALL		<a href="#">1101-21700</a>	2.16.840.1.113883.11.20.9.22 (ProcedureAct statusCode)
effectiveTime	1..1	SHALL		<a href="#">1101-21661</a>	
low	1..1	SHALL		<a href="#">1101-21662</a>	
width	1..1	SHALL		<a href="#">1101-21663</a>	
priorityCode	0..1	MAY		<a href="#">1101-21664</a>	
@nullFlavor	0..1	MAY		<a href="#">1101-21665</a>	NA
@code	0..1	MAY		<a href="#">1101-21666</a>	2.16.840.1.113883.6.96 (SNOMED CT) = 63161005
methodCode	0..1	MAY		<a href="#">1101-21667</a>	
@code	1..1	SHOULD		<a href="#">1101-21668</a>	
approachSiteCode	0..1	MAY		<a href="#">1101-21671</a>	
@nullFlavor	0..1	MAY		<a href="#">1101-21672</a>	NI
@code	0..1	MAY		<a href="#">1101-21673</a>	2.16.840.1.113883.13.2 (NHSNSpinalFusionApproachCode)

performer	0..1	MAY		<a href="#">1101-21675</a>	
@typeCode	1..1	SHALL		<a href="#">1101-21676</a>	PRF
assignedEntity	1..1	SHALL		<a href="#">1101-21677</a>	
id	1..*	SHALL		<a href="#">1101-21678</a>	
@root	1..1	SHALL		<a href="#">1101-21679</a>	
@extension	1..1	SHALL		<a href="#">1101-21681</a>	
entryRelationship	1..1	SHALL		<a href="#">1101-21683</a>	
@typeCode	1..1	SHALL		<a href="#">1101-21684</a>	2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = COMP
substanceAdministration	1..1	SHALL		<a href="#">1101-21685</a>	<a href="#">Anesthesia Administration Clinical Statement (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.112)</a>
entryRelationship	0..1	MAY		<a href="#">1101-21686</a>	
@typeCode	1..1	SHALL		<a href="#">1101-21687</a>	2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = COMP
observation	1..1	SHALL		<a href="#">1101-21688</a>	<a href="#">Spinal Fusion Level Observation (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.166)</a>
entryRelationship	0..1	SHALL		<a href="#">1101-21690</a>	
@typeCode	1..1	SHALL		<a href="#">1101-21691</a>	2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = COMP
procedure	1..1	SHALL		<a href="#">1101-21692</a>	<a href="#">Closure Technique Procedure (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.117)</a>
entryRelationship	0..1	MAY		<a href="#">1101-30241</a>	
@typeCode	1..1	SHALL		<a href="#">1101-30242</a>	2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = COMP
observation	1..1	SHALL		<a href="#">1101-30243</a>	<a href="#">Revision Associated with Prior Infection Observation (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.204)</a>

1. Conforms to Procedure Activity Procedure template (identifier: urn: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:1101-21654).
3. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:1101-21655).
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:1101-30303) such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.22.4.14" (CONF:1101-30304).
5. **SHALL** contain exactly one [1..1] **templateId** (CONF:1101-21695) such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.5.6.153.2" (CONF:1101-30250).
6. **SHALL** contain exactly one [1..1] **id** (CONF:1101-21656).
7. **SHALL** contain exactly one [1..1] **code**, which **SHALL** be selected from ValueSet [NHSNProcedureCategoryCode](#) 2.16.840.1.113883.13.17 (CONF:1101-21657).
  - a. This code **MAY** contain zero or one [0..1] **translation** (CONF:1101-21698).
    - i. This code/translation **MAY** be used for sending an ICD-9 code (CONF:1101-21699).
8. **SHALL** contain exactly one [1..1] **statusCode**, which **SHALL** be selected from ValueSet [ProcedureAct statusCode](#) 2.16.840.1.113883.11.20.9.22 **DYNAMIC** (CONF:1101-21700).
9. **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:1101-21661).
  - a. This effectiveTime **SHALL** contain exactly one [1..1] **low** (CONF:1101-21662).
  - b. This effectiveTime **SHALL** contain exactly one [1..1] **width** (CONF:1101-21663).
10. **MAY** contain zero or one [0..1] **priorityCode** (CONF:1101-21664).
  - a. The priorityCode, if present, **MAY** contain zero or one [0..1] **@nullFlavor**="NA" (CONF:1101-21665).
  - b. 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:1101-21666).
11. **MAY** contain zero or one [0..1] **methodCode** (CONF:1101-21667).
  - a. The methodCode, if present, **SHOULD** contain exactly one [1..1] **@code** (CONF:1101-21668).
  - b. 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:1101-21669).
  - c. 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:1101-21670).
12. **MAY** contain zero or one [0..1] **approachSiteCode** (CONF:1101-21671).
  - a. The approachSiteCode, if present, **MAY** contain zero or one [0..1] **@nullFlavor**="NI" (CONF:1101-21672).

- b. The approachSiteCode, if present, **MAY** contain zero or one [0..1] @code, which **SHALL** be selected from ValueSet [NHSNSpinalFusionApproachCode](#) 2.16.840.1.113883.13.2 **STATIC** 2012-08-08 (CONF:1101-21673).
  - c. 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:1101-21674).
- 13. **MAY** contain zero or one [0..1] **performer** (CONF:1101-21675).
  - a. The performer, if present, **SHALL** contain exactly one [1..1] @typeCode="PRF" (CONF:1101-21676).
  - b. The performer, if present, **SHALL** contain exactly one [1..1] **assignedEntity** (CONF:1101-21677).
    - i. This assignedEntity **SHALL** contain at least one [1..\*] **id** (CONF:1101-21678).
      - 1. Such ids **SHALL** contain exactly one [1..1] @root (CONF:1101-21679).
        - a. This @root **SHALL** be the facility's identifier (CONF:1101-21680).
      - 2. Such ids **SHALL** contain exactly one [1..1] @extension (CONF:1101-21681).
        - a. This @extension **SHALL** be the surgeon's identifier (CONF:1101-21682).
- 14. **SHALL** contain exactly one [1..1] **entryRelationship** (CONF:1101-21683) such that it
  - a. **SHALL** contain exactly one [1..1] @typeCode="COMP" Has component (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002 **STATIC**) (CONF:1101-21684).
  - b. **SHALL** contain exactly one [1..1] [Anesthesia Administration Clinical Statement](#) (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.112) (CONF:1101-21685).
- 15. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:1101-21686) such that it
  - a. **SHALL** contain exactly one [1..1] @typeCode="COMP" (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002 **STATIC**) (CONF:1101-21687).
  - b. **SHALL** contain exactly one [1..1] [Spinal Fusion Level Observation](#) (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.166) (CONF:1101-21688).
  - c. If the procedure is a fusion or refusion, this entryRelationship **SHALL** be present (CONF:1101-21689).
- 16. **SHALL** contain zero or one [0..1] **entryRelationship** (CONF:1101-21690) such that it
  - a. **SHALL** contain exactly one [1..1] @typeCode="COMP" (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002 **STATIC**) (CONF:1101-21691).
  - b. **SHALL** contain exactly one [1..1] [Closure Technique Procedure](#) (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.117) (CONF:1101-21692).
- 17. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:1101-30241) such that it



- a. **SHALL** contain exactly one [1..1] @typeCode="COMP" (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002) (CONF:1101-30242).
- b. **SHALL** contain exactly one [1..1] Revision Associated with Prior Infection Observation (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.204) (CONF:1101-30243).
- c. If the procedure is a total revision or a partial revision of an HPRO or KPRO, this entryRelationship **SHALL** be present (CONF:1101-30251).

**Table 267: 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 268: 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 269: 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 106: Code Translation Example—Procedure Report**

<pre> &lt;code code="2105-5"   displayName="Abdominal aortic aneurysm repair"   codeSystem="2.16.840.1.113883.6.277"   codeSystemName="cdcNHSN"&gt;   &lt;translation code="34800"     codeSystem="2.16.840.1.113883.6.2"     displayName="ENDOVASCULAR REPAIR OF ABDOMINAL AORTIC ANEURYSM"     codeSystemName="ICD9CM"/&gt; &lt;/code&gt; </pre>
--

**Figure 107: 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 108: 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 109: 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>
```

### 3.72 Procedure Details Clinical Statement in an Infection-Type Report

[procedure: identifier urn:oid:2.16.840.1.113883.10.20.5.6.154 (closed)]

**Table 270: Procedure Details Clinical Statement in an Infection-Type Report Contexts**

Contained By:	Contains:
<a href="#">Post-Procedure Observation</a> (optional) <a href="#">Infection Details Section in an SSI Report (V2)</a> (required)	

This clinical statement records the detail required in an Infection-Type Report about a procedure.

**Table 271: Procedure Details Clinical Statement in an Infection-Type Report Constraints Overview**

XPath	Card.	Verb	Data Type	CONF#	Value
procedure (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.154)					
@classCode	1..1	SHALL		<a href="#">86-21640</a>	2.16.840.1.113883.5.6 (HL7ActClass) = PROC
@moodCode	1..1	SHALL		<a href="#">86-21641</a>	2.16.840.1.113883.5.1001 (ActMood) = EVN
templateId	1..1	SHALL		<a href="#">86-28269</a>	
@root	1..1	SHALL		<a href="#">86-28270</a>	2.16.840.1.113883.10.20.22.4.14
templateId	1..1	SHALL		<a href="#">86-21651</a>	
@root	1..1	SHALL		<a href="#">86-21652</a>	2.16.840.1.113883.10.20.5.6.154
id	1..1	SHALL		<a href="#">86-21642</a>	
code	1..1	SHALL		<a href="#">86-21643</a>	2.16.840.1.113883.13.17 (NHSNProcedureCategoryCode)
translation	0..*	MAY		<a href="#">86-21645</a>	
statusCode	1..1	SHALL		<a href="#">86-21653</a>	2.16.840.1.113883.11.20.9.22 (ProcedureAct statusCode)
effectiveTime	1..1	SHALL		<a href="#">86-21647</a>	
low	1..1	SHALL		<a href="#">86-21648</a>	

1. Conforms to Procedure Activity Procedure template (identifier: urn: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:86-21640).

3. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:86-21641).
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:86-28269) such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.22.4.14" (CONF:86-28270).
5. **SHALL** contain exactly one [1..1] **templateId** (CONF:86-21651) such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.5.6.154" (CONF:86-21652).
6. **SHALL** contain exactly one [1..1] **id** (CONF:86-21642).
7. **SHALL** contain exactly one [1..1] **code** (ValueSet: [NHSNProcedureCategoryCode](#) 2.16.840.1.113883.13.17 **DYNAMIC**) (CONF:86-21643).
  - a. This code **MAY** contain zero or more [0..\*] **translation** (CONF:86-21645).
    - i. This code/translation **MAY** be used for sending an ICD-9 code (CONF:86-21646).
8. **SHALL** contain exactly one [1..1] **statusCode** (ValueSet: [ProcedureAct statusCode](#) 2.16.840.1.113883.11.20.9.22 **DYNAMIC**) (CONF:86-21653).
9. **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:86-21647).
  - a. This effectiveTime **SHALL** contain exactly one [1..1] **low** (CONF:86-21648).

**Figure 110: 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 111: 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>
```

### 3.73 Procedure Risk Factors Clinical Statement in a Procedure Report

[procedure: identifier urn:oid:2.16.840.1.113883.10.20.5.6.156 (closed)]

**Table 272: Procedure Risk Factors Clinical Statement in a Procedure Report Contexts**

Contained By:	Contains:
<a href="#">Infection Risk Factors Section in a Procedure Report</a> (required)	<a href="#">Endoscope Used Clinical Statement</a> <a href="#">Wound Class Observation</a>

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 273: Procedure Risk Factors Clinical Statement in a Procedure Report Constraints Overview**

XPath	Card.	Verb	Data Type	CONF#	Value
procedure (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.156)					
@classCode	1..1	SHALL		<a href="#">86-21319</a>	2.16.840.1.113883.5.6 (HL7ActClass) = PROC
@moodCode	1..1	SHALL		<a href="#">86-21320</a>	2.16.840.1.113883.5.1001 (ActMood) = EVN
templateId	1..1	SHALL		<a href="#">86-21990</a>	
@root	1..1	SHALL		<a href="#">86-21991</a>	2.16.840.1.113883.10.20.5.6.156
id	1..1	SHALL		<a href="#">86-21321</a>	
entryRelationship	1..1	SHALL		<a href="#">86-21323</a>	
@typeCode	1..1	SHALL		<a href="#">86-21324</a>	2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = COMP
observation	1..1	SHALL		<a href="#">86-21325</a>	<a href="#">Wound Class Observation (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.174)</a>
entryRelationship	1..1	SHALL		<a href="#">86-21327</a>	
@typeCode	1..1	SHALL		<a href="#">86-21328</a>	2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = COMP
procedure	1..1	SHALL		<a href="#">86-21329</a>	<a href="#">Endoscope Used Clinical Statement (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.128)</a>

1. **SHALL** contain exactly one [1..1] **@classCode**="PROC" Procedure (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 **STATIC**) (CONF:86-21319).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:86-21320).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:86-21990) such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.5.6.156" (CONF:86-21991).
4. **SHALL** contain exactly one [1..1] **id** (CONF:86-21321).
  - a. 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:86-21322).
5. **SHALL** contain exactly one [1..1] **entryRelationship** (CONF:86-21323) such that it

- a. **SHALL** contain exactly one [1..1] @typeCode="COMP" Has component (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002 **STATIC**) (CONF:86-21324).
  - b. **SHALL** contain exactly one [1..1] [Wound Class Observation](#) (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.174) (CONF:86-21325).
6. **SHALL** contain exactly one [1..1] **entryRelationship** (CONF:86-21327) such that it
  - a. **SHALL** contain exactly one [1..1] @typeCode="COMP" Has component (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002 **STATIC**) (CONF:86-21328).
  - b. **SHALL** contain exactly one [1..1] [Endoscope Used Clinical Statement](#) (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.128) (CONF:86-21329).
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:86-21331).

**Figure 112: 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"/>
      ...
    </observation>
  </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>
```

### 3.74 Prophylactic IV Antibiotic Timing Observation

[observation: identifier urn:oid:2.16.840.1.113883.10.20.5.6.209 (closed)]

**Table 274: Prophylactic IV Antibiotic Timing Observation Contexts**

Contained By:	Contains:
<a href="#">Other Event Details Section</a> (required)	



This template reports a facility-level process measure that occurs on the same day as the outpatient procedure. This process measure represents whether or not this patient had an order for a prophylactic IV antibiotic that was NOT administered on time (as defined by the NHSN protocol). When there was an order for a prophylactic IV antibiotic that was NOT administered on time, set the value of negationInd to false, otherwise set the value of negationInd to true.

**Table 275: Prophylactic IV Antibiotic Timing Observation Constraints Overview**

XPath	Card.	Verb	Data Type	CONF#	Value
observation (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.209)					
@classCode	1..1	SHALL		<a href="#">1113-21667</a>	2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		<a href="#">1113-21668</a>	2.16.840.1.113883.5.1001 (ActMood) = EVN
@negationInd	1..1	SHALL		<a href="#">1113-21681</a>	
templateId	1..1	SHALL		<a href="#">1113-21864</a>	
@root	1..1	SHALL		<a href="#">1113-21865</a>	2.16.840.1.113883.10.20.22.4.4
templateId	1..1	SHALL		<a href="#">1113-21669</a>	
@root	1..1	SHALL		<a href="#">1113-21670</a>	2.16.840.1.113883.10.20.5.6.209
id	1..1	SHALL		<a href="#">1113-21671</a>	
@nullFlavor	1..1	SHALL		<a href="#">1113-21672</a>	NA
code	1..1	SHALL		<a href="#">1113-21673</a>	
@code	1..1	SHALL		<a href="#">1113-21674</a>	ASSERTION
@codeSystem	1..1	SHALL		<a href="#">1113-21675</a>	2.16.840.1.113883.5.4 (ActCode) = 2.16.840.1.113883.5.4
statusCode	1..1	SHALL		<a href="#">1113-21676</a>	
@code	1..1	SHALL		<a href="#">1113-21677</a>	2.16.840.1.113883.5.14 (ActStatus) = completed
effectiveTime	1..1	SHALL		<a href="#">1113-21861</a>	
value	1..1	SHALL	CD	<a href="#">1113-21678</a>	
@code	1..1	SHALL		<a href="#">1113-21679</a>	1650-1
@codeSystem	1..1	SHALL		<a href="#">1113-21680</a>	2.16.840.1.113883.6.277 (cdcNHSN) = 2.16.840.1.113883.6.277

1. Conforms to Problem Observation template (identifier: urn: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:1113-21667).

3. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" (CodeSystem: ActMood 2.16.840.1.113883.5.1001) (CONF:1113-21668).

If there was an order for a prophylactic IV antibiotic that was NOT administered on time, set the value of negationInd to false. Otherwise, set the value of negationInd to true.

4. **SHALL** contain exactly one [1..1] **@negationInd** (CONF:1113-21681).
5. **SHALL** contain exactly one [1..1] **templateId** (CONF:1113-21864) such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.22.4.4" (CONF:1113-21865).
6. **SHALL** contain exactly one [1..1] **templateId** (CONF:1113-21669) such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.5.6.209" (CONF:1113-21670).
7. **SHALL** contain exactly one [1..1] **id** (CONF:1113-21671).
  - a. This id **SHALL** contain exactly one [1..1] **@nullFlavor**="NA" (CONF:1113-21672).
8. **SHALL** contain exactly one [1..1] **code** (CONF:1113-21673).
  - a. This code **SHALL** contain exactly one [1..1] **@code**="ASSERTION" Assertion (CONF:1113-21674).
  - b. 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:1113-21675).
9. **SHALL** contain exactly one [1..1] **statusCode** (CONF:1113-21676).
  - a. This statusCode **SHALL** contain exactly one [1..1] **@code**="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14 **STATIC**) (CONF:1113-21677).
10. **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:1113-21861).
11. **SHALL** contain exactly one [1..1] **value** with **@xsi:type**="CD" (CONF:1113-21678).
  - a. This value **SHALL** contain exactly one [1..1] **@code**="1650-1" Order for prophylactic IV antibiotic NOT administered on time (CONF:1113-21679).
  - b. 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 **STATIC**) (CONF:1113-21680).

**Figure 113: Prophylactic IV Antibiotic Timing Observation Example**

```
<observation classCode="OBS" moodCode="EVN" negationInd="false">
  <!-- If there was an order for a prophylactic IV antibiotic that was NOT administered
    on time, set the value of negationInd to false. Otherwise, set the value of
    negationInd to true.-->
  <!-- C-CDA R1.1 Problem Observation templateId -->
  <templateId root="2.16.840.1.113883.10.20.22.4.4" />
  <!-- Prophylactic IV Antibiotic Timing Observation templateId -->
  <templateId root="2.16.840.1.113883.10.20.5.6.209" />
  <id nullFlavor="NA" />
  <code code="ASSERTION" codeSystem="2.16.840.1.113883.5.4" />
  <statusCode code="completed" />
  <effectiveTime nullFlavor="NA" />
  <value xsi:type="CD"
    code="1650-1"
    displayName="Order for prophylactic IV antibiotic NOT administered on time"
    codeSystem="2.16.840.1.113883.6.277"
    codeSystemName="cdcNHSN"/>
</observation>
```

### 3.75 Pus, Redness, or Increased Swelling Observation

[observation: identifier urn:oid:2.16.840.1.113883.10.20.5.6.157 (closed)]

**Table 276: Pus, Redness, or Increased Swelling Observation Contexts**

Contained By:	Contains:
<a href="#">Infection Indicator Organizer [V2]</a> (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 277: Pus, Redness, or Increased Swelling Observation Constraints Overview**

<b>XPath</b>	<b>Card.</b>	<b>Verb</b>	<b>Data Type</b>	<b>CONF#</b>	<b>Value</b>
observation (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.157)					
@classCode	1..1	SHALL		<a href="#">86-19900</a>	2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		<a href="#">86-19901</a>	2.16.840.1.113883.5.1001 (ActMood) = EVN
@negationInd	1..1	SHALL		<a href="#">86-19902</a>	
templateId	1..1	SHALL		<a href="#">86-28271</a>	
@root	1..1	SHALL		<a href="#">86-28272</a>	2.16.840.1.113883.10.20.22.4.4
templateId	1..1	SHALL		<a href="#">86-19905</a>	
@root	1..1	SHALL		<a href="#">86-19906</a>	2.16.840.1.113883.10.20.5.6.157
id	1..1	SHALL		<a href="#">86-19907</a>	
@nullFlavor	1..1	SHALL		<a href="#">86-22788</a>	NA
code	1..1	SHALL		<a href="#">86-19908</a>	
@code	1..1	SHALL		<a href="#">86-19909</a>	2.16.840.1.113883.5.4 (ActCode) = ASSERTION
statusCode	1..1	SHALL		<a href="#">86-19910</a>	
@code	1..1	SHALL		<a href="#">86-19911</a>	2.16.840.1.113883.5.14 (ActStatus) = completed
value	1..1	SHALL	CD	<a href="#">86-19912</a>	
@code	1..1	SHALL		<a href="#">86-19913</a>	2.16.840.1.113883.6.277 (cdcNHSN) = 2305-1
participant	0..*	MAY		<a href="#">86-20937</a>	
@typeCode	1..1	SHALL		<a href="#">86-19915</a>	DEV
participantRole	1..1	SHALL		<a href="#">86-19916</a>	
playingDevice	1..1	SHALL		<a href="#">86-19917</a>	
code	1..1	SHALL		<a href="#">86-19918</a>	
@classCode	1..1	SHALL		<a href="#">86-19921</a>	MANU

1. Conforms to Problem Observation template (identifier:  
urn: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:86-19900).
3. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" Event (CodeSystem: ActMood  
2.16.840.1.113883.5.1001 **STATIC**) (CONF:86-19901).
4. **SHALL** contain exactly one [1..1] **@negationInd** (CONF:86-19902).
5. **SHALL** contain exactly one [1..1] **templateId** (CONF:86-28271) such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.22.4.4"  
(CONF:86-28272).
6. **SHALL** contain exactly one [1..1] **templateId** (CONF:86-19905) such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.5.6.157"  
(CONF:86-19906).
7. **SHALL** contain exactly one [1..1] **id** (CONF:86-19907).
  - a. This id **SHALL** contain exactly one [1..1] **@nullFlavor**="NA" (CONF:86-22788).
8. **SHALL** contain exactly one [1..1] **code** (CONF:86-19908).
  - a. This code **SHALL** contain exactly one [1..1] **@code**="ASSERTION" Assertion  
(CodeSystem: ActCode 2.16.840.1.113883.5.4 **STATIC**) (CONF:86-19909).
9. **SHALL** contain exactly one [1..1] **statusCode** (CONF:86-19910).
  - a. This statusCode **SHALL** contain exactly one [1..1] **@code**="completed" Completed  
(CodeSystem: ActStatus 2.16.840.1.113883.5.14 **STATIC**) (CONF:86-19911).
10. **SHALL** contain exactly one [1..1] **value** with **@xsi:type**="CD" (CONF:86-19912).
  - a. 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:86-19913).
11. **MAY** contain zero or more [0..\*] **participant** (CONF:86-20937).

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.

12. 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:86-19914).
  - a. **SHALL** contain exactly one [1..1] **@typeCode**="DEV" Device (CONF:86-19915).
  - b. **SHALL** contain exactly one [1..1] **participantRole** (CONF:86-19916).
    - i. This participantRole **SHALL** contain exactly one [1..1] **playingDevice**  
(CONF:86-19917).
      1. This playingDevice **SHALL** contain exactly one [1..1] **code** (CONF:86-  
19918).
        - a. 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:86-19919).

- b. 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:86-19920).
  - ii. This participantRole **SHALL** contain exactly one [1..1] @classCode="MANU" (CONF:86-19921).

**Table 278: 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 114: 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>

```

### 3.76 Reason for Procedure Observation

[observation: identifier urn:oid:2.16.840.1.113883.10.20.5.6.158 (closed)]

**Table 279: Reason for Procedure Observation Contexts**

Contained By:	Contains:
<a href="#">Procedure Details Clinical Statement in a CLIP Report</a> (required)	<a href="#">Guidewire Used Clinical Statement</a>

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 280: Reason for Procedure Observation Constraints Overview**

XPath	Card.	Verb	Data Type	CONF#	Value
observation (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.158)					
@classCode	1..1	SHALL		<a href="#">86-21589</a>	2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		<a href="#">86-21590</a>	2.16.840.1.113883.5.1001 (ActMood) = EVN
@negationInd	1..1	SHALL		<a href="#">86-21591</a>	false
templateId	1..1	SHALL		<a href="#">86-28273</a>	
@root	1..1	SHALL		<a href="#">86-28274</a>	2.16.840.1.113883.10.20.22.4.19
templateId	1..1	SHALL		<a href="#">86-21593</a>	
@root	1..1	SHALL		<a href="#">86-21603</a>	2.16.840.1.113883.10.20.5.6.158
id	1..1	SHALL		<a href="#">86-21594</a>	
@nullFlavor	1..1	SHALL		<a href="#">86-22789</a>	NA
code	1..1	SHALL		<a href="#">86-21595</a>	
@code	1..1	SHALL		<a href="#">86-21596</a>	2.16.840.1.113883.5.4 (ActCode) = ASSERTION
statusCode	1..1	SHALL		<a href="#">86-21597</a>	
@code	1..1	SHALL		<a href="#">86-21598</a>	2.16.840.1.113883.5.14 (ActStatus) = completed
value	1..1	SHALL		<a href="#">86-21599</a>	
entryRelationship	0..1	MAY		<a href="#">86-23286</a>	
@typeCode	1..1	SHALL		<a href="#">86-23287</a>	2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = RSON
@inversionInd	1..1	SHALL		<a href="#">86-23288</a>	true
procedure	1..1	SHALL		<a href="#">86-23289</a>	<a href="#">Guidewire Used Clinical Statement (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.129)</a>

1. Conforms to Indication template (identifier: urn: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:86-21589).
3. **SHALL** contain exactly one [1..1] **@moodCode="EVN"** Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:86-21590).
4. **SHALL** contain exactly one [1..1] **@negationInd="false"** (CONF:86-21591).
5. **SHALL** contain exactly one [1..1] **templateId** (CONF:86-28273) such that it
  - a. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.22.4.19"** (CONF:86-28274).
6. **SHALL** contain exactly one [1..1] **templateId** (CONF:86-21593) such that it
  - a. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.5.6.158"** (CONF:86-21603).
7. **SHALL** contain exactly one [1..1] **id** (CONF:86-21594).
  - a. This id **SHALL** contain exactly one [1..1] **@nullFlavor="NA"** (CONF:86-22789).
8. **SHALL** contain exactly one [1..1] **code** (CONF:86-21595).
  - a. This code **SHALL** contain exactly one [1..1] **@code="ASSERTION"** Assertion (CodeSystem: ActCode 2.16.840.1.113883.5.4 **STATIC**) (CONF:86-21596).
9. **SHALL** contain exactly one [1..1] **statusCode** (CONF:86-21597).
  - a. This statusCode **SHALL** contain exactly one [1..1] **@code="completed"** Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14 **STATIC**) (CONF:86-21598).
10. **SHALL** contain exactly one [1..1] **value** (CONF:86-21599).
  - a. 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:86-21600).
11. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:86-23286).
  - a. The entryRelationship, if present, **SHALL** contain exactly one [1..1] **@typeCode="RSON"** (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002) (CONF:86-23287).
  - b. The entryRelationship, if present, **SHALL** contain exactly one [1..1] **@inversionInd="true"** (CONF:86-23288).
  - c. The entryRelationship, if present, **SHALL** contain exactly one [1..1] [Guidewire Used Clinical Statement](#) (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.129) (CONF:86-23289).
  - d. 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:86-23290).

**Table 281: 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 115: Reason for Procedure Observation Example**

```
<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">
      <!-- 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" />
      ...
    </procedure>
  </entryRelationship>
</observation>
-->
```

### 3.77 Recorder Observation

[observation: identifier urn:oid:2.16.840.1.113883.10.20.5.6.159 (closed)]

**Table 282: Recorder Observation Contexts**

Contained By:	Contains:
<a href="#">Procedure Details Clinical Statement in a CLIP Report</a> (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 283: Recorder Observation Constraints Overview**

XPath	Card.	Verb	Data Type	CONF#	Value
observation (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.159)					
@classCode	1..1	SHALL		<a href="#">86-21342</a>	2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		<a href="#">86-21343</a>	2.16.840.1.113883.5.1001 (ActMood) = EVN
@negationInd	1..1	SHALL		<a href="#">86-21344</a>	
templateId	1..1	SHALL		<a href="#">86-21987</a>	
@root	1..1	SHALL		<a href="#">86-21988</a>	2.16.840.1.113883.10.20.5.6.159
id	1..1	SHALL		<a href="#">86-21989</a>	
@nullFlavor	1..1	SHALL		<a href="#">86-22790</a>	NA
code	1..1	SHALL		<a href="#">86-21345</a>	
@code	1..1	SHALL		<a href="#">86-21346</a>	2.16.840.1.113883.5.4 (ActCode) = ASSERTION
statusCode	1..1	SHALL		<a href="#">86-21347</a>	
@code	1..1	SHALL		<a href="#">86-21348</a>	2.16.840.1.113883.5.14 (ActStatus) = completed
value	1..1	SHALL	CD	<a href="#">86-21349</a>	
@code	1..1	SHALL		<a href="#">86-21350</a>	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:86-21342).
2. **SHALL** contain exactly one [1..1] **@moodCode="EVN"** Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:86-21343).
3. **SHALL** contain exactly one [1..1] **@negationInd** (CONF:86-21344).
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:86-21987) such that it
  - a. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.5.6.159"** (CONF:86-21988).
5. **SHALL** contain exactly one [1..1] **id** (CONF:86-21989).
  - a. This id **SHALL** contain exactly one [1..1] **@nullFlavor="NA"** (CONF:86-22790).
6. **SHALL** contain exactly one [1..1] **code** (CONF:86-21345).
  - a. This code **SHALL** contain exactly one [1..1] **@code="ASSERTION"** Assertion (CodeSystem: ActCode 2.16.840.1.113883.5.4 **STATIC**) (CONF:86-21346).
7. **SHALL** contain exactly one [1..1] **statusCode** (CONF:86-21347).
  - a. This statusCode **SHALL** contain exactly one [1..1] **@code="completed"** Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14 **STATIC**) (CONF:86-21348).
8. **SHALL** contain exactly one [1..1] **value** with **@xsi:type="CD"** (CONF:86-21349).
  - a. 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:86-21350).

**Figure 116: 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>
```

### 3.78 Revision Associated with Prior Infection Observation

[observation: identifier urn:oid:2.16.840.1.113883.10.20.5.6.204 (closed)]

**Table 284: Revision Associated with Prior Infection Observation Contexts**

Contained By:	Contains:
<a href="#">Procedure Details Clinical Statement in a Procedure Report (V2)</a> (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 285: Revision Associated with Prior Infection Observation Constraints Overview**

XPath	Card.	Verb	Data Type	CONF#	Value
observation (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.204)					
@classCode	1..1	SHALL		<a href="#">1101-30225</a>	2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		<a href="#">1101-30226</a>	EVN
@negationInd	1..1	SHALL		<a href="#">1101-30227</a>	
templateId	1..1	SHALL		<a href="#">1101-30305</a>	
@root	1..1	SHALL		<a href="#">1101-30306</a>	2.16.840.1.113883.10.20.22.4.4
templateId	1..1	SHALL		<a href="#">1101-30229</a>	
@root	1..1	SHALL		<a href="#">1101-30230</a>	2.16.840.1.113883.10.20.5.6.204
id	1..1	SHALL		<a href="#">1101-30231</a>	
@nullFlavor	1..1	SHALL		<a href="#">1101-30232</a>	NA
code	1..1	SHALL		<a href="#">1101-30233</a>	
@code	1..1	SHALL		<a href="#">1101-30234</a>	ASSERTION
@codeSystem	1..1	SHALL		<a href="#">1101-30235</a>	2.16.840.1.113883.5.4 (ActCode) = 2.16.840.1.113883.5.4
statusCode	1..1	SHALL		<a href="#">1101-30236</a>	
@code	1..1	SHALL		<a href="#">1101-30237</a>	2.16.840.1.113883.5.14 (ActStatus) = completed
value	1..1	SHALL	CD	<a href="#">1101-30238</a>	
@code	1..1	SHALL		<a href="#">1101-30239</a>	2.16.840.1.113883.6.277 (cdcNHSN) = 1239-3
@codeSystem	1..1	SHALL		<a href="#">1101-30240</a>	2.16.840.1.113883.6.277 (cdcNHSN) = 2.16.840.1.113883.6.277

1. Conforms to Problem Observation template (identifier:  
urn: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:1101-30225).
3. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" (CONF:1101-30226).
4. **SHALL** contain exactly one [1..1] **@negationInd** (CONF:1101-30227).
  - a. 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:1101-30228).
5. **SHALL** contain exactly one [1..1] **templateId** (CONF:1101-30305) such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.22.4.4" (CONF:1101-30306).
6. **SHALL** contain exactly one [1..1] **templateId** (CONF:1101-30229) such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.5.6.204" (CONF:1101-30230).
7. **SHALL** contain exactly one [1..1] **id** (CONF:1101-30231).
  - a. This id **SHALL** contain exactly one [1..1] **@nullFlavor**="NA" (CONF:1101-30232).
8. **SHALL** contain exactly one [1..1] **code** (CONF:1101-30233).
  - a. This code **SHALL** contain exactly one [1..1] **@code**="ASSERTION" (CONF:1101-30234).
  - b. 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:1101-30235).
9. **SHALL** contain exactly one [1..1] **statusCode** (CONF:1101-30236).
  - a. This statusCode **SHALL** contain exactly one [1..1] **@code**="completed" (CodeSystem:  
ActStatus 2.16.840.1.113883.5.14) (CONF:1101-30237).
10. **SHALL** contain exactly one [1..1] **value** with **@xsi:type**="CD" (CONF:1101-30238).
  - a. 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:1101-30239).
  - b. 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:1101-30240).



**Figure 117: 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>
```

### 3.79 Same Day Outcome Measure Observation

[observation: identifier urn:oid:2.16.840.1.113883.10.20.5.6.208 (closed)]

**Table 286: Same Day Outcome Measure Observation Contexts**

Contained By:	Contains:
<a href="#">Same Day Outcome Measures Organizer</a> (required)	

This template reports a facility-level outcome measure that occurs on the same day as the outpatient procedure.

The measures include:

- Patient burn
- Patient fall
- Wrong site
- Wrong side
- Wrong patient
- Wrong procedure
- Wrong implant
- Hospital transfer/admission

If the outcome occurred, set the value of @negationInd to false. If the outcome did not occur, set the value of @negationInd to true.

**Table 287: Same Day Outcome Measure Observation Constraints Overview**

XPath	Card.	Verb	Data Type	CONF#	Value
observation (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.208)					
@classCode	1..1	SHALL		<a href="#">1113-21655</a>	2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		<a href="#">1113-21656</a>	2.16.840.1.113883.5.1001 (ActMood) = EVN
@negationInd	1..1	SHALL		<a href="#">1113-21779</a>	
templateId	1..1	SHALL		<a href="#">1113-21866</a>	
@root	1..1	SHALL		<a href="#">1113-21867</a>	2.16.840.1.113883.10.20.22.4.4
templateId	1..1	SHALL		<a href="#">1113-21657</a>	
@root	1..1	SHALL		<a href="#">1113-21658</a>	2.16.840.1.113883.10.20.5.6.208
id	1..1	SHALL		<a href="#">1113-21663</a>	
@nullFlavor	1..1	SHALL		<a href="#">1113-21664</a>	NA
code	1..1	SHALL		<a href="#">1113-21659</a>	
@code	1..1	SHALL		<a href="#">1113-21660</a>	1655-0
@codeSystem	1..1	SHALL		<a href="#">1113-21661</a>	2.16.840.1.113883.6.277 (cdcNHSN) = 2.16.840.1.113883.6.277
statusCode	1..1	SHALL		<a href="#">1113-21665</a>	
@code	1..1	SHALL		<a href="#">1113-21666</a>	2.16.840.1.113883.5.14 (ActStatus) = completed
effectiveTime	1..1	SHALL		<a href="#">1113-21858</a>	
value	1..1	SHALL	CD	<a href="#">1113-21662</a>	2.16.840.1.114222.4.11.7214 (NHSNSameDayOutcomeMeasure)

1. Conforms to Problem Observation template (identifier: urn: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 **STATIC**) (CONF:1113-21655).
3. **SHALL** contain exactly one [1..1] @moodCode="EVN" (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:1113-21656).

If the outcome occurred, set the value of @negationInd to false. If the outcome did not occur, set the value of @negationInd to true.

4. **SHALL** contain exactly one [1..1] @negationInd (CONF:1113-21779).
5. **SHALL** contain exactly one [1..1] templateId (CONF:1113-21866) such that it
  - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.4.4" (CONF:1113-21867).
6. **SHALL** contain exactly one [1..1] templateId (CONF:1113-21657) such that it
  - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.6.208" (CONF:1113-21658).
7. **SHALL** contain exactly one [1..1] id (CONF:1113-21663).
  - a. This id **SHALL** contain exactly one [1..1] @nullFlavor="NA" (CONF:1113-21664).
8. **SHALL** contain exactly one [1..1] code (CONF:1113-21659).
  - a. This code **SHALL** contain exactly one [1..1] @code="1655-0" Same day outcome measure (CONF:1113-21660).
  - b. 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 **STATIC**) (CONF:1113-21661).
9. **SHALL** contain exactly one [1..1] statusCode (CONF:1113-21665).
  - a. This statusCode **SHALL** contain exactly one [1..1] @code="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14 **STATIC**) (CONF:1113-21666).
10. **SHALL** contain exactly one [1..1] effectiveTime (CONF:1113-21858).
11. **SHALL** contain exactly one [1..1] value with @xsi:type="CD", where the code **SHALL** be selected from ValueSet [NHSNSameDayOutcomeMeasure](#) 2.16.840.1.114222.4.11.7214 **DYNAMIC** (CONF:1113-21662).

**Table 288: NHSNSameDayOutcomeMeasure**

Value Set: NHSNSameDayOutcomeMeasure 2.16.840.1.114222.4.11.7214			
Code System: SNOMED CT 2.16.840.1.113883.6.96 or cdcNHSN 2.16.840.1.113883.6.277			
This value set contains codes that describe facility-level outcome measures that occur on the same day as the outpatient procedure.			
Code	Code System	Code System OID	Print Name
125666000	SNOMED CT	2.16.840.1.113883.6.96	Patient burn
217082002	SNOMED CT	2.16.840.1.113883.6.96	Patient fall
1645-1	cdcNHSN	2.16.840.1.113883.6.277	Hospital transfer/admission
1646-9	cdcNHSN	2.16.840.1.113883.6.277	Wrong site
1647-7	cdcNHSN	2.16.840.1.113883.6.277	Wrong side
1648-5	cdcNHSN	2.16.840.1.113883.6.277	Wrong patient
370898007	SNOMED CT	2.16.840.1.113883.6.96	Wrong surgical procedure performed on a patient
1649-3	cdcNHSN	2.16.840.1.113883.6.277	Wrong implant

**Figure 118: Same Day Outcome Measure Observation Example**

```
<observation classCode="OBS" moodCode="EVN" negationInd="true">
  <!-- C-CDA R1.1 Problem Observation templateId -->
  <templateId root="2.16.840.1.113883.10.20.22.4.4" />
  <!-- Same Day Outcome Measure templateId -->
  <templateId root="2.16.840.1.113883.10.20.5.6.208" />
  <id nullFlavor="NA" />
  <code code="1655-0"
    displayName="Same Day Outcome Measure"
    codeSystem="2.16.840.1.113883.6.277"
    codeSystemName="cdcNHSN"/>
  <statusCode code="completed" />
  <effectiveTime>
    <low value="20130805" />
  </effectiveTime>
  <value xsi:type="CD"
    code="370898007"
    codeSystem="2.16.840.1.113883.6.96"
    codeSystemName="SNOMED CT"
    displayName="Wrong procedure" />
</observation>
```

### 3.80 Same Day Outcome Measures Organizer

[organizer: identifier urn:oid:2.16.840.1.113883.10.20.5.6.212 (closed)]

**Table 289: Same Day Outcome Measures Organizer Contexts**

Contained By:	Contains:
<a href="#">Other Event Details Section</a> (optional)	<a href="#">Same Day Outcome Measure Observation</a>

This organizer groups together the same day outcome measures.

**Table 290: Same Day Outcome Measures Organizer Constraints Overview**

XPath	Card.	Verb	Data Type	CONF#	Value
organizer (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.212)					
@classCode	1..1	SHALL		<a href="#">1113-21784</a>	2.16.840.1.113883.5.6 (HL7ActClass) = CLUSTER
@moodCode	1..1	SHALL		<a href="#">1113-21785</a>	2.16.840.1.113883.5.1001 (ActMood) = EVN
templateId	1..1	SHALL		<a href="#">1113-21781</a>	
@root	1..1	SHALL		<a href="#">1113-21786</a>	2.16.840.1.113883.10.20.5.6.212
statusCode	1..1	SHALL		<a href="#">1113-21782</a>	
@code	1..1	SHALL		<a href="#">1113-21787</a>	2.16.840.1.113883.5.14 (ActStatus) = completed
component	1..*	SHALL		<a href="#">1113-21780</a>	
observation	1..1	SHALL		<a href="#">1113-21783</a>	<a href="#">Same Day Outcome Measure Observation (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.208</a>

1. **SHALL** contain exactly one [1..1] **@classCode**="CLUSTER" Cluster (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 **STATIC**) (CONF:1113-21784).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:1113-21785).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:1113-21781) such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.5.6.212" (CONF:1113-21786).
4. **SHALL** contain exactly one [1..1] **statusCode** (CONF:1113-21782).
  - a. This statusCode **SHALL** contain exactly one [1..1] **@code**="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14) (CONF:1113-21787).
5. **SHALL** contain at least one [1..\*] **component** (CONF:1113-21780).
  - a. Such components **SHALL** contain exactly one [1..1] [Same Day Outcome Measure Observation](#) (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.208) (CONF:1113-21783).

**Figure 119: Same Day Outcome Measures Organizer Example**

```
<organizer classCode="CLUSTER" moodCode="EVN">
  <!-- Same Day Outcome Measures Organizer templateId -->
  <templateId root="2.16.840.1.113883.10.20.5.6.212" />
  <statusCode code="completed" />
  <component>
    <!-- Same Day Outcome Measure -->
    <observation classCode="OBS" moodCode="EVN" negationInd="false">
      <!-- Same Day Outcome Measure templateId -->
      <templateId root="2.16.840.1.113883.10.20.5.6.208" />
      ...
    </observation>
  </component>
  <component>
    <!-- Same Day Outcome Measure -->
    <observation classCode="OBS" moodCode="EVN" negationInd="false">
      <!-- Same Day Outcome Measure templateId -->
      <templateId root="2.16.840.1.113883.10.20.5.6.208" />
      ...
    </observation>
  </component>
  ...
</organizer>
```

### 3.81 Secondary Bloodstream Infection Observation

[observation: identifier urn:oid:2.16.840.1.113883.10.20.5.6.160 (closed)]

**Table 291: Secondary Bloodstream Infection Observation Contexts**

Contained By:	Contains:
<a href="#">Infection-Type Observation</a> (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 292: Secondary Bloodstream Infection Observation Constraints Overview**

XPath	Card.	Verb	Data Type	CONF#	Value
observation (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.160)					
@classCode	1..1	SHALL		<a href="#">86-19840</a>	2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		<a href="#">86-19841</a>	2.16.840.1.113883.5.1001 (ActMood) = EVN
@negationInd	1..1	SHALL		<a href="#">86-19842</a>	
templateId	1..1	SHALL		<a href="#">86-28275</a>	
@root	1..1	SHALL		<a href="#">86-28276</a>	2.16.840.1.113883.10.20.22.4.4
templateId	1..1	SHALL		<a href="#">86-19851</a>	
@root	1..1	SHALL		<a href="#">86-19852</a>	2.16.840.1.113883.10.20.5.6.160
id	1..1	SHALL		<a href="#">86-23363</a>	
@nullFlavor	1..1	SHALL		<a href="#">86-23364</a>	NA
code	1..1	SHALL		<a href="#">86-19843</a>	
@code	1..1	SHALL		<a href="#">86-19844</a>	2.16.840.1.113883.5.4 (ActCode) = ASSERTION
statusCode	1..1	SHALL		<a href="#">86-19845</a>	
@code	1..1	SHALL		<a href="#">86-19846</a>	2.16.840.1.113883.5.14 (ActStatus) = completed
value	1..1	SHALL	CD	<a href="#">86-19847</a>	
@code	1..1	SHALL		<a href="#">86-19848</a>	2.16.840.1.113883.6.277 (cdcNHSN) = 3111-2

1. Conforms to Problem Observation template (identifier: urn: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:86-19840).
3. **SHALL** contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:86-19841).
4. **SHALL** contain exactly one [1..1] @negationInd (CONF:86-19842).
5. **SHALL** contain exactly one [1..1] templateId (CONF:86-28275) such that it
  - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.4.4" (CONF:86-28276).

6. **SHALL** contain exactly one [1..1] **templateId** (CONF:86-19851) such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.5.6.160" (CONF:86-19852).
7. **SHALL** contain exactly one [1..1] **id** (CONF:86-23363).
  - a. This id **SHALL** contain exactly one [1..1] **@nullFlavor**="NA" (CONF:86-23364).
8. **SHALL** contain exactly one [1..1] **code** (CONF:86-19843).
  - a. This code **SHALL** contain exactly one [1..1] **@code**="ASSERTION" Assertion (CodeSystem: ActCode 2.16.840.1.113883.5.4 **STATIC**) (CONF:86-19844).
9. **SHALL** contain exactly one [1..1] **statusCode** (CONF:86-19845).
  - a. This statusCode **SHALL** contain exactly one [1..1] **@code**="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14 **STATIC**) (CONF:86-19846).
10. **SHALL** contain exactly one [1..1] **value** with **@xsi:type**="CD" (CONF:86-19847).
  - a. 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:86-19848).

**Figure 120: 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>
```

### 3.82 Significant Pathogens Observation

[observation: identifier urn:oid:2.16.840.1.113883.10.20.5.6.161 (closed)]

This observation records the finding of up to three of the most-significant pathogens.



**Table 293: Significant Pathogens Observation Constraints Overview**

XPath	Card.	Verb	Data Type	CONF#	Value
observation (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.161)					
@classCode	1..1	SHALL		<a href="#">86-21351</a>	2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		<a href="#">86-21352</a>	2.16.840.1.113883.5.1001 (ActMood) = EVN
templateId	1..1	SHALL		<a href="#">86-21984</a>	
@root	1..1	SHALL		<a href="#">86-21985</a>	2.16.840.1.113883.10.20.5.6.161
code	1..1	SHALL		<a href="#">86-21353</a>	
@code	1..1	SHALL		<a href="#">86-21354</a>	2.16.840.1.113883.6.1 (LOINC) = 41852-5
statusCode	1..1	SHALL		<a href="#">86-21355</a>	
@code	1..1	SHALL		<a href="#">86-21356</a>	2.16.840.1.113883.5.14 (ActStatus) = completed
value	1..3	SHALL		<a href="#">86-21357</a>	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:86-21351).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:86-21352).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:86-21984) such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.5.6.161" (CONF:86-21985).
4. **SHALL** contain exactly one [1..1] **code** (CONF:86-21353).
  - a. This code **SHALL** contain exactly one [1..1] **@code**="41852-5" Microorganism Identified (CodeSystem: LOINC 2.16.840.1.113883.6.1 **STATIC**) (CONF:86-21354).
5. **SHALL** contain exactly one [1..1] **statusCode** (CONF:86-21355).
  - a. This statusCode **SHALL** contain exactly one [1..1] **@code**="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14 **STATIC**) (CONF:86-21356).
6. **SHALL** contain at least one and not more than 3 **value** (ValueSet: [NHSNSignificantPathogenCode](#) 2.16.840.1.114222.4.11.3194 **DYNAMIC**) (CONF:86-21357).

**Figure 121: 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>
```

### 3.83 Skin Preparation Clinical Statement (V2)

[substanceAdministration: identifier  
urn:hl7ii:2.16.840.1.113883.10.20.5.6.162:2014-12-01 (closed)]

**Table 294: Skin Preparation Clinical Statement (V2) Contexts**

Contained By:	Contains:
<a href="#">Skin-Preparation Solutions Applied Organizer (V2)</a> (required)	<a href="#">Contraindicated Observation (V2)</a>

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 295: Skin Preparation Clinical Statement (V2) Constraints Overview**

<b>XPath</b>	<b>Card.</b>	<b>Verb</b>	<b>Data Type</b>	<b>CONF#</b>	<b>Value</b>
substanceAdministration (identifier: urn:hl7ii:2.16.840.1.113883.10.20.5.6.162:2014-12-01)					
@classCode	1..1	SHALL		<a href="#">1129-21359</a>	2.16.840.1.113883.5.6 (HL7ActClass) = SBADM
@moodCode	1..1	SHALL		<a href="#">1129-21360</a>	2.16.840.1.113883.5.1001 (ActMood) = EVN
@negationInd	1..1	SHALL		<a href="#">1129-21361</a>	
templateId	1..1	SHALL		<a href="#">1129-30537</a>	
@root	1..1	SHALL		<a href="#">1129-30538</a>	2.16.840.1.113883.10.20.22.4.16
templateId	1..1	SHALL		<a href="#">1129-22118</a>	
@root	1..1	SHALL		<a href="#">1129-22124</a>	2.16.840.1.113883.10.20.5.6.162
@extension	1..1	SHALL		<a href="#">1129-30539</a>	2014-12-01
id	1..1	SHALL		<a href="#">1129-22119</a>	
@nullFlavor	1..1	SHALL		<a href="#">1129-22785</a>	NA
statusCode	1..1	SHALL		<a href="#">1129-22120</a>	
@code	1..1	SHALL		<a href="#">1129-28105</a>	2.16.840.1.113883.5.14 (ActStatus) = completed
effectiveTime	1..1	SHALL	IVL_TS	<a href="#">1129-22121</a>	
low	1..1	SHALL		<a href="#">1129-22122</a>	
@nullFlavor	1..1	SHALL		<a href="#">1129-22786</a>	NA
high	1..1	SHALL		<a href="#">1129-22123</a>	
@nullFlavor	1..1	SHALL		<a href="#">1129-22787</a>	NA
consumable	1..1	SHALL		<a href="#">1129-21362</a>	
manufacturedProduct	1..1	SHALL		<a href="#">1129-21363</a>	
@classCode	1..1	SHALL		<a href="#">1129-21364</a>	2.16.840.1.113883.5.110 (RoleClass) = MANU
templateId	1..1	SHALL		<a href="#">1129-30556</a>	

@root	1..1	SHALL		<a href="#">1129-30557</a>	2.16.840.1.113883.10.20.22.4.23
manufacturedMaterial	1..1	SHALL		<a href="#">1129-21365</a>	
@classCode	1..1	SHALL		<a href="#">1129-21366</a>	2.16.840.1.113883.5.41 (EntityClass) = MMAT
code	1..1	SHALL		<a href="#">1129-21367</a>	
entryRelationship	0..1	MAY		<a href="#">1129-23291</a>	
@typeCode	1..1	SHALL		<a href="#">1129-23292</a>	2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = RSON
observation	1..1	SHALL		<a href="#">1129-30431</a>	<a href="#">Contraindicated Observation (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.5.6.118:2014-12-01)</a>

1. Conforms to Medication Activity template (identifier: urn: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:1129-21359).
3. **SHALL** contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:1129-21360).
4. **SHALL** contain exactly one [1..1] @negationInd (CONF:1129-21361).
5. **SHALL** contain exactly one [1..1] templateId (CONF:1129-30537) such that it
  - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.4.16" (CONF:1129-30538).
6. **SHALL** contain exactly one [1..1] templateId (CONF:1129-22118) such that it
  - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.6.162" (CONF:1129-22124).
  - b. **SHALL** contain exactly one [1..1] @extension="2014-12-01" (CONF:1129-30539).
7. **SHALL** contain exactly one [1..1] id (CONF:1129-22119).
  - a. This id **SHALL** contain exactly one [1..1] @nullFlavor="NA" (CONF:1129-22785).
8. **SHALL** contain exactly one [1..1] statusCode (CONF:1129-22120).
  - a. This statusCode **SHALL** contain exactly one [1..1] @code="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14) (CONF:1129-28105).
9. **SHALL** contain exactly one [1..1] effectiveTime (CONF:1129-22121).
  - a. This effectiveTime **SHALL** contain exactly one [1..1] low (CONF:1129-22122).
    - i. This low **SHALL** contain exactly one [1..1] @nullFlavor="NA" (CONF:1129-22786).
  - b. This effectiveTime **SHALL** contain exactly one [1..1] high (CONF:1129-22123).
    - i. This high **SHALL** contain exactly one [1..1] @nullFlavor="NA" (CONF:1129-22787).
10. **SHALL** contain exactly one [1..1] consumable (CONF:1129-21362).

- a. This consumable **SHALL** contain exactly one [1..1] **manufacturedProduct** (CONF:1129-21363).
  - i. This manufacturedProduct **SHALL** contain exactly one [1..1] **@classCode="MANU"** Manufactured product (CodeSystem: RoleClass 2.16.840.1.113883.5.110 **STATIC**) (CONF:1129-21364).
  - ii. This manufacturedProduct **SHALL** contain exactly one [1..1] **templateId** (CONF:1129-30556) such that it
    1. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.22.4.23"** (CONF:1129-30557).
  - iii. This manufacturedProduct **SHALL** contain exactly one [1..1] **manufacturedMaterial** (CONF:1129-21365).
    1. This manufacturedMaterial **SHALL** contain exactly one [1..1] **@classCode="MMAT"** Manufactured material (CodeSystem: EntityClass 2.16.840.1.113883.5.41 **STATIC**) (CONF:1129-21366).
    2. This manufacturedMaterial **SHALL** contain exactly one [1..1] **code** (CONF:1129-21367).
      - a. 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:1129-21368).

When recording whether chlorhexidine gluconate was applied, if it was not applied, NHSN protocol requires that it be recorded whether there was a contraindication to it.

11. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:1129-23291) such that it
  - a. **SHALL** contain exactly one [1..1] **@typeCode="RSON"** (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002) (CONF:1129-23292).
  - b. **SHALL** contain exactly one [1..1] [Contraindicated Observation \(V2\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.5.6.118:2014-12-01) (CONF:1129-30431).
    - i. 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:1129-23294).
  - c. If chlorhexidine gluconate was NOT applied, **SHALL** contain an entryRelationship containing a Contraindicated Observation (CONF:1129-23295).

**Table 296: 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 122: Skin Preparation Clinical Statement (V2) 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 (V2) templateId -->
  <templateId root="2.16.840.1.113883.10.20.5.6.162"
    extension="2014-12-01" />

  <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>

```

**Figure 123: Skin Preparation Clinical Statement (V2) - Chlorhexidine Not Applied Example**

```
<substanceAdministration moodCode="EVN" classCode="SBADM" negationInd="true">
  <!-- C-CDA Medication Activity templateId -->
  <templateId root="2.16.840.1.113883.10.20.22.4.16" />
  <!-- HAI Skin preparation Clinical Statement (V2) templateId -->
  <templateId root="2.16.840.1.113883.10.20.5.6.162"
    extension="2014-12-01"/>
  <id nullFlavor="NA" />
  <statusCode code="completed" />
  <effectiveTime xsi:type="IVL_TS">
    <low nullFlavor="NA" />
    <high nullFlavor="NA" />
  </effectiveTime>
  <consumable>
    <manufacturedProduct classCode="MANU">
      <!-- C-CDA Medication Information templateId -->
      <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="20791"
          displayName="Chlorhexidine gluconate" />
      </manufacturedMaterial>
    </manufacturedProduct>
  </consumable>
  <!-- if chlorhexidine was not applied, record here whether it was contraindicated -->
  <entryRelationship typeCode="RSON">
    <!-- Contraindicated Observation -->
    <!-- It is true (not-negated) that the target statement was not-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 (V2) templateId -->
      <templateId root="2.16.840.1.113883.10.20.5.6.118"
        extension="2014-12-01" />
      ...
    </observation>
  </entryRelationship>
</substanceAdministration>
```

### 3.84 Skin-Preparation Solutions Applied Organizer (V2)

```
[organizer: identifier urn:hl7ii:2.16.840.1.113883.10.20.5.6.183:2014-12-01
(closed)]
```

**Table 297: Skin-Preparation Solutions Applied Organizer (V2) Contexts**

Contained By:	Contains:
<a href="#">Central-Line Insertion Preparation Organizer (V2)</a> (required)	<a href="#">Skin Preparation Clinical Statement (V2)</a>

This organizer 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 298: Skin-Preparation Solutions Applied Organizer (V2) Constraints Overview**

XPath	Card.	Verb	Data Type	CONF#	Value
organizer (identifier: urn:hl7ii:2.16.840.1.113883.10.20.5.6.183:2014-12-01)					
@classCode	1..1	SHALL		<a href="#">1129-22252</a>	2.16.840.1.113883.5.6 (HL7ActClass) = CLUSTER
@moodCode	1..1	SHALL		<a href="#">1129-22253</a>	2.16.840.1.113883.5.1001 (ActMood) = EVN
templateId	1..1	SHALL		<a href="#">1129-22254</a>	
@root	1..1	SHALL		<a href="#">1129-28110</a>	2.16.840.1.113883.10.20.5.6.183
@extension	1..1	SHALL		<a href="#">1129-30293</a>	2014-12-01
statusCode	1..1	SHALL		<a href="#">1129-22257</a>	
@code	1..1	SHALL		<a href="#">1129-22258</a>	2.16.840.1.113883.5.14 (ActStatus) = completed
component	1..*	SHALL		<a href="#">1129-22260</a>	
substanceAdministration	1..1	SHALL		<a href="#">1129-30432</a>	<a href="#">Skin Preparation Clinical Statement (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.5.6.162:2014-12-01)</a>

1. **SHALL** contain exactly one [1..1] **@classCode**="CLUSTER" Cluster (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 **STATIC**) (CONF:1129-22252).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:1129-22253).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:1129-22254) such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.5.6.183" (CONF:1129-28110).
  - b. **SHALL** contain exactly one [1..1] **@extension**="2014-12-01" (CONF:1129-30293).
4. **SHALL** contain exactly one [1..1] **statusCode** (CONF:1129-22257).
  - a. This statusCode **SHALL** contain exactly one [1..1] **@code**="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14 **STATIC**) (CONF:1129-22258).
5. **SHALL** contain at least one [1..\*] **component** (CONF:1129-22260).
  - a. Such components **SHALL** contain exactly one [1..1] [Skin Preparation Clinical Statement \(V2\)](#) (identifier:



urn:hl7ii:2.16.840.1.113883.10.20.5.6.162:2014-12-01) (CONF:1129-30432).

- b. 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:1129-22262).

**Figure 124: Skin-Preparation Solutions Applied Organizer (V2) Example**

```
<organizer moodCode="EVN" classCode="CLUSTER">
  <!-- Skin-Preparation Solutions Applied Organizer (V2) templateId -->
  <templateId root="2.16.840.1.113883.10.20.5.6.183"
    extension="2014-12-01" />
  <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 (V2) templateId -->
      <templateId root="2.16.840.1.113883.10.20.5.6.162"
        extension="2014-12-01" />
      ...
    </substanceAdministration>
  </component>
  ...
</organizer>
```

### 3.85 Solutions Dried Observation

[observation: identifier urn:oid:2.16.840.1.113883.10.20.5.6.163 (closed)]

**Table 299: Solutions Dried Observation Contexts**

Contained By:	Contains:
<a href="#">Central-Line Insertion Practice Clinical Statement (V2)</a> (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 300: Solutions Dried Observation Constraints Overview**

XPath	Card.	Verb	Data Type	CONF#	Value
observation (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.163)					
@classCode	1..1	SHALL		<a href="#">86-20938</a>	2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		<a href="#">86-20939</a>	2.16.840.1.113883.5.1001 (ActMood) = EVN
@negationInd	1..1	SHALL		<a href="#">86-20940</a>	
templateId	1..1	SHALL		<a href="#">86-28277</a>	
@root	1..1	SHALL		<a href="#">86-28278</a>	2.16.840.1.113883.10.20.22.4.4
templateId	1..1	SHALL		<a href="#">86-20943</a>	
@root	1..1	SHALL		<a href="#">86-20944</a>	2.16.840.1.113883.10.20.5.6.163
id	1..1	SHALL		<a href="#">86-20945</a>	
@nullFlavor	1..1	SHALL		<a href="#">86-22783</a>	NA
code	1..1	SHALL		<a href="#">86-20946</a>	
@code	1..1	SHALL	CS	<a href="#">86-20947</a>	2.16.840.1.113883.5.4 (ActCode) = ASSERTION
statusCode	1..1	SHALL		<a href="#">86-20948</a>	
@code	1..1	SHALL		<a href="#">86-20949</a>	2.16.840.1.113883.5.14 (ActStatus) = completed
value	1..1	SHALL	CD	<a href="#">86-20950</a>	
@code	1..1	SHALL		<a href="#">86-20952</a>	2.16.840.1.113883.6.277 (cdcNHSN) = 3114-6

1. Conforms to Problem Observation template (identifier: urn: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:86-20938).
3. **SHALL** contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:86-20939).
4. **SHALL** contain exactly one [1..1] @negationInd (CONF:86-20940).
5. **SHALL** contain exactly one [1..1] templateId (CONF:86-28277) such that it
  - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.4.4" (CONF:86-28278).

6. **SHALL** contain exactly one [1..1] **templateId** (CONF:86-20943) such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.5.6.163" (CONF:86-20944).
7. **SHALL** contain exactly one [1..1] **id** (CONF:86-20945).
  - a. This id **SHALL** contain exactly one [1..1] **@nullFlavor**="NA" (CONF:86-22783).
8. **SHALL** contain exactly one [1..1] **code** (CONF:86-20946).
  - a. This code **SHALL** contain exactly one [1..1] **@code**="ASSERTION" Assertion (CodeSystem: ActCode 2.16.840.1.113883.5.4 **STATIC**) (CONF:86-20947).
9. **SHALL** contain exactly one [1..1] **statusCode** (CONF:86-20948).
  - a. This statusCode **SHALL** contain exactly one [1..1] **@code**="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14 **STATIC**) (CONF:86-20949).
10. **SHALL** contain exactly one [1..1] **value** with **@xsi:type**="CD" (CONF:86-20950).
  - a. 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:86-20952).

**Figure 125: 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>
```

### 3.86 Specimen Collection Encounter (ARO)

[encounter: identifier urn:oid:2.16.840.1.113883.10.20.5.6.187 (closed)]

**Table 301: Specimen Collection Encounter (ARO) Contexts**

Contained By:	Contains:
<a href="#">Specimen Collection Procedure (ARO) (V2)</a> (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 302: Specimen Collection Encounter (ARO) Constraints Overview**

<b>XPath</b>	<b>Card.</b>	<b>Verb</b>	<b>Data Type</b>	<b>CONF#</b>	<b>Value</b>
encounter (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.187)					
@classCode	1..1	SHALL		<a href="#">86-22649</a>	2.16.840.1.113883.5.6 (HL7ActClass) = ENC
@moodCode	1..1	SHALL		<a href="#">86-22650</a>	2.16.840.1.113883.5.1001 (ActMood) = EVN
templateId	1..1	SHALL		<a href="#">86-28279</a>	
@root	1..1	SHALL		<a href="#">86-28280</a>	2.16.840.1.113883.10.20.22.4.49
templateId	1..1	SHALL		<a href="#">86-22651</a>	
@root	1..1	SHALL		<a href="#">86-22652</a>	2.16.840.1.113883.10.20.5.6.187
id	1..1	SHALL		<a href="#">86-22653</a>	
@nullFlavor	1..1	SHALL		<a href="#">86-22654</a>	2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = NA
effectiveTime	1..1	SHALL		<a href="#">86-22655</a>	
@nullFlavor	1..1	SHALL		<a href="#">86-22656</a>	NA
participant	1..1	SHALL		<a href="#">86-22657</a>	
@typeCode	1..1	SHALL		<a href="#">86-22658</a>	2.16.840.1.113883.5.90 (HL7ParticipationType) = LOC
participantRole	1..1	SHALL		<a href="#">86-22659</a>	
@classCode	1..1	SHALL		<a href="#">86-22660</a>	2.16.840.1.113883.5.110 (RoleClass) = SDLOC
id	1..1	SHALL		<a href="#">86-22661</a>	
@root	1..1	SHALL		<a href="#">86-22662</a>	
@extension	1..1	SHALL		<a href="#">86-22663</a>	
playingEntity	1..1	SHALL		<a href="#">86-22664</a>	
@classCode	1..1	SHALL		<a href="#">86-22665</a>	2.16.840.1.113883.5.41 (EntityClass) = PLC
code	1..1	SHALL		<a href="#">86-22666</a>	2.16.840.1.113883.13.19 (NHSNHealthcareServiceLocation Code)

1. Conforms to Encounter Activities template (identifier: urn: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:86-22649).
3. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:86-22650).
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:86-28279) such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.22.4.49" (CONF:86-28280).
5. **SHALL** contain exactly one [1..1] **templateId** (CONF:86-22651) such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.5.6.187" (CONF:86-22652).
6. **SHALL** contain exactly one [1..1] **id** (CONF:86-22653).
  - a. This id **SHALL** contain exactly one [1..1] **@nullFlavor**="NA" (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002) (CONF:86-22654).
7. **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:86-22655).
  - a. This effectiveTime **SHALL** contain exactly one [1..1] **@nullFlavor**="NA" (CONF:86-22656).
8. **SHALL** contain exactly one [1..1] **participant** (CONF:86-22657).
  - a. This participant **SHALL** contain exactly one [1..1] **@typeCode**="LOC" Location (CodeSystem: HL7ParticipationType 2.16.840.1.113883.5.90 **STATIC**) (CONF:86-22658).
  - b. This participant **SHALL** contain exactly one [1..1] **participantRole** (CONF:86-22659).
    - i. This participantRole **SHALL** contain exactly one [1..1] **@classCode**="SDLOC" Service delivery location (CodeSystem: RoleClass 2.16.840.1.113883.5.110 **STATIC**) (CONF:86-22660).
    - ii. This participantRole **SHALL** contain exactly one [1..1] **id** (CONF:86-22661).
      1. This id **SHALL** contain exactly one [1..1] **@root** (CONF:86-22662).
      2. This id **SHALL** contain exactly one [1..1] **@extension** (CONF:86-22663).
    - iii. This participantRole **SHALL** contain exactly one [1..1] **playingEntity** (CONF:86-22664).
      1. This playingEntity **SHALL** contain exactly one [1..1] **@classCode**="PLC" Place (CodeSystem: EntityClass 2.16.840.1.113883.5.41 **STATIC**) (CONF:86-22665).
      2. This playingEntity **SHALL** contain exactly one [1..1] **code**, which **SHALL** be selected from ValueSet [NHSNHealthcareServiceLocationCode](#) 2.16.840.1.113883.13.19 **DYNAMIC** (CONF:86-22666).

**Figure 126: 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>
```

### 3.87 Specimen Collection Encounter (LIO)

[encounter: identifier urn:oid:2.16.840.1.113883.10.20.5.6.164 (closed)]

**Table 303: Specimen Collection Encounter (LIO) Contexts**

Contained By:	Contains:
<a href="#">Specimen Collection Procedure (LIO)</a> (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 304: Specimen Collection Encounter (LIO) Constraints Overview**

XPath	Card.	Verb	Data Type	CONF#	Value
encounter (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.164)					
@classCode	1..1	SHALL		<a href="#">86-21563</a>	2.16.840.1.113883.5.6 (HL7ActClass) = ENC
@moodCode	1..1	SHALL		<a href="#">86-21564</a>	2.16.840.1.113883.5.1001 (ActMood) = EVN
templateId	1..1	SHALL		<a href="#">86-28281</a>	
@root	1..1	SHALL		<a href="#">86-28282</a>	2.16.840.1.113883.10.20.22.4.49
templateId	1..1	SHALL		<a href="#">86-21567</a>	
@root	1..1	SHALL		<a href="#">86-21568</a>	2.16.840.1.113883.10.20.5.6.164
id	1..1	SHALL		<a href="#">86-21569</a>	
@nullFlavor	1..1	SHALL		<a href="#">86-21583</a>	NA
effectiveTime	1..1	SHALL		<a href="#">86-21584</a>	
participant	1..1	SHALL		<a href="#">86-21571</a>	
@typeCode	1..1	SHALL		<a href="#">86-21572</a>	2.16.840.1.113883.5.90 (HL7ParticipationType) = LOC
participantRole	1..1	SHALL		<a href="#">86-21573</a>	
@classCode	1..1	SHALL		<a href="#">86-21574</a>	2.16.840.1.113883.5.110 (RoleClass) = SDLOC
id	1..1	SHALL		<a href="#">86-21575</a>	
@root	1..1	SHALL		<a href="#">86-21576</a>	
@extension	1..1	SHALL		<a href="#">86-21577</a>	
playingEntity	1..1	SHALL		<a href="#">86-21578</a>	
@classCode	1..1	SHALL		<a href="#">86-21579</a>	2.16.840.1.113883.5.41 (EntityClass) = PLC
code	1..1	SHALL		<a href="#">86-21580</a>	2.16.840.1.113883.13.19 (NHSNHealthcareServiceLocation Code)

1. Conforms to Encounter Activities template (identifier: urn: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:86-21563).
3. **SHALL** contain exactly one [1..1] **@moodCode="EVN"** Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:86-21564).
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:86-28281) such that it
  - a. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.22.4.49"** (CONF:86-28282).
5. **SHALL** contain exactly one [1..1] **templateId** (CONF:86-21567) such that it
  - a. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.5.6.164"** (CONF:86-21568).
6. **SHALL** contain exactly one [1..1] **id** (CONF:86-21569).
  - a. This id **SHALL** contain exactly one [1..1] **@nullFlavor="NA"** (CONF:86-21583).
7. **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:86-21584).
  - a. 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:86-21585).
  - b. If the patient was not an inpatient and the encounter DateTime is not known or not available, an appropriate nullFlavor **SHALL** be used on effectiveTime element (CONF:86-21604).
8. **SHALL** contain exactly one [1..1] **participant** (CONF:86-21571).
  - a. This participant **SHALL** contain exactly one [1..1] **@typeCode="LOC"** Location (CodeSystem: HL7ParticipationType 2.16.840.1.113883.5.90 **STATIC**) (CONF:86-21572).
  - b. This participant **SHALL** contain exactly one [1..1] **participantRole** (CONF:86-21573).
    - i. This participantRole **SHALL** contain exactly one [1..1] **@classCode="SDLOC"** Service delivery location (CodeSystem: RoleClass 2.16.840.1.113883.5.110 **STATIC**) (CONF:86-21574).
    - ii. This participantRole **SHALL** contain exactly one [1..1] **id** (CONF:86-21575).
      1. This id **SHALL** contain exactly one [1..1] **@root** (CONF:86-21576).
      2. This id **SHALL** contain exactly one [1..1] **@extension** (CONF:86-21577).
    - iii. This participantRole **SHALL** contain exactly one [1..1] **playingEntity** (CONF:86-21578).
      1. This playingEntity **SHALL** contain exactly one [1..1] **@classCode="PLC"** Place (CodeSystem: EntityClass 2.16.840.1.113883.5.41 **STATIC**) (CONF:86-21579).
      2. This playingEntity **SHALL** contain exactly one [1..1] **code**, which **SHALL** be selected from ValueSet [NHSNHealthcareServiceLocationCode](#) 2.16.840.1.113883.13.19 **DYNAMIC** (CONF:86-21580).

**Figure 127: 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">
    <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>
```

### 3.88 Specimen Collection Procedure (ARO) (V2)

[procedure: identifier urn:hl7ii:2.16.840.1.113883.10.20.5.6.188:2014-12-01  
(closed)]

**Table 305: Specimen Collection Procedure (ARO) (V2) Contexts**

Contained By:	Contains:
<a href="#">Findings Section in an ARO Report (V2)</a> (required)	<a href="#">Isolate Susceptibility Tests Organizer (V2)</a> <a href="#">Specimen Collection Encounter (ARO)</a>

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 306: Specimen Collection Procedure (ARO) (V2) Constraints Overview**

XPath	Card.	Verb	Data Type	CONF#	Value
procedure (identifier: urn:hl7ii:2.16.840.1.113883.10.20.5.6.188:2014-12-01)					
@classCode	1..1	SHALL		<a href="#">1129-22668</a>	2.16.840.1.113883.5.6 (HL7ActClass) = PROC
@moodCode	1..1	SHALL		<a href="#">1129-22669</a>	2.16.840.1.113883.5.1001 (ActMood) = EVN
templateId	1..1	SHALL		<a href="#">1129-22670</a>	
@root	1..1	SHALL		<a href="#">1129-22671</a>	2.16.840.1.113883.10.20.5.6.188
@extension	1..1	SHALL		<a href="#">1129-30472</a>	2014-12-01
effectiveTime	1..1	SHALL		<a href="#">1129-22672</a>	
@value	1..1	SHALL		<a href="#">1129-22673</a>	
specimen	1..1	SHALL		<a href="#">1129-27160</a>	
specimenRole	1..1	SHALL		<a href="#">1129-27161</a>	
specimenPlayingEntity	1..1	SHALL		<a href="#">1129-27162</a>	
code	1..1	SHALL		<a href="#">1129-27163</a>	2.16.840.1.114222.4.11.3249 (NHSNSpecimenTypeCode)
entryRelationship	1..1	SHALL		<a href="#">1129-22681</a>	
@typeCode	1..1	SHALL		<a href="#">1129-22682</a>	2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = COMP
@inversionInd	1..1	SHALL		<a href="#">1129-22683</a>	true
encounter	1..1	SHALL		<a href="#">1129-22684</a>	<a href="#">Specimen Collection Encounter (ARO) (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.187</a>
entryRelationship	1..*	SHALL		<a href="#">1129-27164</a>	
@typeCode	1..1	SHALL		<a href="#">1129-27165</a>	2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = COMP
@inversionInd	1..1	SHALL		<a href="#">1129-27432</a>	true
organizer	1..1	SHALL		<a href="#">1129-30471</a>	<a href="#">Isolate Susceptibility Tests Organizer (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.5.6.201:2014-12-01</a>

1. **SHALL** contain exactly one [1..1] **@classCode**="PROC" Procedure (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 **STATIC**) (CONF:1129-22668).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:1129-22669).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:1129-22670) such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.5.6.188" (CONF:1129-22671).
  - b. **SHALL** contain exactly one [1..1] **@extension**="2014-12-01" (CONF:1129-30472).
4. **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:1129-22672).
  - a. This **effectiveTime** **SHALL** contain exactly one [1..1] **@value** (CONF:1129-22673).
5. **SHALL** contain exactly one [1..1] **specimen** (CONF:1129-27160).
  - a. This **specimen** **SHALL** contain exactly one [1..1] **specimenRole** (CONF:1129-27161).
    - i. This **specimenRole** **SHALL** contain exactly one [1..1] **specimenPlayingEntity** (CONF:1129-27162).
      1. This **specimenPlayingEntity** **SHALL** contain exactly one [1..1] **code**, which **SHALL** be selected from ValueSet [NHSNSpecimenTypeCode](#) 2.16.840.1.114222.4.11.3249 (CONF:1129-27163).
6. **SHALL** contain exactly one [1..1] **entryRelationship** (CONF:1129-22681) such that it
  - a. **SHALL** contain exactly one [1..1] **@typeCode**="COMP" Has component (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002 **STATIC**) (CONF:1129-22682).
  - b. **SHALL** contain exactly one [1..1] **@inversionInd**="true" (CONF:1129-22683).
  - c. **SHALL** contain exactly one [1..1] [Specimen Collection Encounter \(ARO\)](#) (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.187) (CONF:1129-22684).
7. **SHALL** contain at least one [1..\*] **entryRelationship** (CONF:1129-27164) such that it
  - a. **SHALL** contain exactly one [1..1] **@typeCode**="COMP" (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002) (CONF:1129-27165).
  - b. **SHALL** contain exactly one [1..1] **@inversionInd**="true" (CONF:1129-27432).
  - c. **SHALL** contain exactly one [1..1] [Isolate Susceptibility Tests Organizer \(V2\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.5.6.201:2014-12-01) (CONF:1129-30471).

**Table 307: 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 128: Specimen Collection Procedure (ARO) (V2) Example**

```
<procedure classCode="PROC" moodCode="EVN">
  <!-- Specimen Collection Procedure (ARO) (V2) -->
  <templateId root="2.16.840.1.113883.10.20.5.6.188"
    extension="2014-12-01" />
  <!-- 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"
        extension="2014-12-01" />
      ...
    </organizer>
  </entryRelationship>
</procedure>
```

### 3.89 Specimen Collection Procedure (LIO)

[procedure: identifier urn:oid:2.16.840.1.113883.10.20.5.6.165 (closed)]

**Table 308: Specimen Collection Procedure (LIO) Contexts**

Contained By:	Contains:
<a href="#">Pathogen Identified Observation (LIO) (V2)</a> (required)	<a href="#">Specimen Collection Encounter (LIO)</a>

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 309: Specimen Collection Procedure (LIO) Constraints Overview**

XPath	Card.	Verb	Data Type	CONF#	Value
procedure (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.165)					
@classCode	1..1	SHALL		<a href="#">86-21389</a>	2.16.840.1.113883.5.6 (HL7ActClass) = PROC
@moodCode	1..1	SHALL		<a href="#">86-21390</a>	2.16.840.1.113883.5.1001 (ActMood) = EVN
templateId	1..1	SHALL		<a href="#">86-21982</a>	
@root	1..1	SHALL		<a href="#">86-21983</a>	2.16.840.1.113883.10.20.5.6.165
effectiveTime	1..1	SHALL		<a href="#">86-21391</a>	
@value	1..1	SHALL		<a href="#">86-21392</a>	
participant	1..1	SHALL		<a href="#">86-21393</a>	
@typeCode	1..1	SHALL		<a href="#">86-21394</a>	2.16.840.1.113883.5.90 (HL7ParticipationType) = PRD
participantRole	1..1	SHALL		<a href="#">86-21395</a>	
@classCode	1..1	SHALL		<a href="#">86-21396</a>	2.16.840.1.113883.5.110 (RoleClass) = SPEC
playingEntity	1..1	SHALL		<a href="#">86-21397</a>	
code	1..1	SHALL		<a href="#">86-21398</a>	2.16.840.1.114222.4.11.3249 (NHSNSpecimenTypeCode)
@nullFlavor	0..1	MAY		<a href="#">86-28200</a>	UNK
entryRelationship	1..1	SHALL		<a href="#">86-21400</a>	
@typeCode	1..1	SHALL		<a href="#">86-21401</a>	2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = COMP
@inversionInd	1..1	SHALL		<a href="#">86-21402</a>	true
encounter	1..1	SHALL		<a href="#">86-21403</a>	<a href="#">Specimen Collection Encounter (LIO) (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.164</a>

1. **SHALL** contain exactly one [1..1] **@classCode**="PROC" Procedure (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 **STATIC**) (CONF:86-21389).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:86-21390).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:86-21982) such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.5.6.165" (CONF:86-21983).
4. **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:86-21391).
  - a. This **effectiveTime** **SHALL** contain exactly one [1..1] **@value** (CONF:86-21392).
5. **SHALL** contain exactly one [1..1] **participant** (CONF:86-21393).
  - a. This **participant** **SHALL** contain exactly one [1..1] **@typeCode**="PRD" Product (CodeSystem: HL7ParticipationType 2.16.840.1.113883.5.90 **STATIC**) (CONF:86-21394).
  - b. This **participant** **SHALL** contain exactly one [1..1] **participantRole** (CONF:86-21395).
    - i. This **participantRole** **SHALL** contain exactly one [1..1] **@classCode**="SPEC" Specimen (CodeSystem: RoleClass 2.16.840.1.113883.5.110 **STATIC**) (CONF:86-21396).
    - ii. This **participantRole** **SHALL** contain exactly one [1..1] **playingEntity** (CONF:86-21397).

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](#) 2.16.840.1.114222.4.11.3249 **DYNAMIC** (CONF:86-21398).
  - a. This **code** **MAY** contain zero or one [0..1] **@nullFlavor**="UNK" (CONF:86-28200).
6. **SHALL** contain exactly one [1..1] **entryRelationship** (CONF:86-21400).
  - a. This **entryRelationship** **SHALL** contain exactly one [1..1] **@typeCode**="COMP" Has component (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002 **STATIC**) (CONF:86-21401).
  - b. This **entryRelationship** **SHALL** contain exactly one [1..1] **@inversionInd**="true" (CONF:86-21402).
  - c. This **entryRelationship** **SHALL** contain exactly one [1..1] [Specimen Collection Encounter \(LIO\)](#) (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.164) (CONF:86-21403).



**Figure 129: Specimen Collection Procedure (LIO) Example**

```
<!-- Specimen collection procedure contains specimen collection encounter -->
<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" />
  ...
  <!-- 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>
  <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>
```

### 3.90 Spinal Fusion Level Observation

[observation: identifier urn:oid:2.16.840.1.113883.10.20.5.6.166 (closed)]

**Table 310: Spinal Fusion Level Observation Contexts**

Contained By:	Contains:
<a href="#">Procedure Details Clinical Statement in a Procedure Report (V2)</a> (optional)	

This observation records the spinal level of a spinal fusion procedure.

**Table 311: Spinal Fusion Level Observation Constraints Overview**

XPath	Card.	Verb	Data Type	CONF#	Value
observation (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.166)					
@classCode	1..1	SHALL		<a href="#">86-21543</a>	2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		<a href="#">86-21544</a>	2.16.840.1.113883.5.1001 (ActMood) = EVN
templateId	1..1	SHALL		<a href="#">86-28283</a>	
@root	1..1	SHALL		<a href="#">86-28284</a>	2.16.840.1.113883.10.20.22.4.4
templateId	1..1	SHALL		<a href="#">86-21553</a>	
@root	1..1	SHALL		<a href="#">86-21554</a>	2.16.840.1.113883.10.20.5.6.166
id	1..1	SHALL		<a href="#">86-21555</a>	
@nullFlavor	1..1	SHALL		<a href="#">86-22775</a>	NA
code	1..1	SHALL		<a href="#">86-21545</a>	
@code	1..1	SHALL	CD	<a href="#">86-21546</a>	2.16.840.1.113883.5.4 (ActCode) = ASSERTION
statusCode	1..1	SHALL		<a href="#">86-21547</a>	
@code	1..1	SHALL		<a href="#">86-21548</a>	2.16.840.1.113883.5.14 (ActStatus) = completed
value	1..1	SHALL	CD	<a href="#">86-21549</a>	2.16.840.1.113883.13.11 (NHSNSpinalFusionLevelCode)

1. Conforms to Problem Observation template (identifier: urn: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:86-21543).
3. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:86-21544).
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:86-28283) such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.22.4.4" (CONF:86-28284).
5. **SHALL** contain exactly one [1..1] **templateId** (CONF:86-21553) such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.5.6.166" (CONF:86-21554).
6. **SHALL** contain exactly one [1..1] **id** (CONF:86-21555).
  - a. This id **SHALL** contain exactly one [1..1] **@nullFlavor**="NA" (CONF:86-22775).

7. **SHALL** contain exactly one [1..1] **code** (CONF:86-21545).
  - a. This code **SHALL** contain exactly one [1..1] **@code**="ASSERTION" Assertion (CodeSystem: ActCode 2.16.840.1.113883.5.4 **STATIC**) (CONF:86-21546).
8. **SHALL** contain exactly one [1..1] **statusCode** (CONF:86-21547).
  - a. This statusCode **SHALL** contain exactly one [1..1] **@code**="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14 **STATIC**) (CONF:86-21548).
9. **SHALL** contain exactly one [1..1] **value** with **@xsi:type**="CD", where the code **SHALL** be selected from ValueSet [NHSNSpinalFusionLevelCode](#) 2.16.840.1.113883.13.11 **STATIC** 2009-06-25 (CONF:86-21549).

**Table 312: 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 130: 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>

```

### 3.91 SSI Detected Using Toolkit Observation

[observation: identifier urn:oid:2.16.840.1.113883.10.20.5.6.206 (closed)]

**Table 313: SSI Detected Using Toolkit Observation Contexts**

Contained By:	Contains:
<a href="#">Infection Details Section in an SSI Report (V2)</a> (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 314: SSI Detected Using Toolkit Observation Constraints Overview**

XPath	Card.	Verb	Data Type	CONF#	Value
observation (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.206)					
@nullFlavor	0..1	MAY		<a href="#">1101-30277</a>	NA
@classCode	1..1	SHALL		<a href="#">1101-30278</a>	2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		<a href="#">1101-30279</a>	2.16.840.1.113883.5.1001 (ActMood) = EVN
@negationInd	0..1	MAY		<a href="#">1101-30280</a>	
templateId	1..1	SHALL		<a href="#">1101-30282</a>	
@root	1..1	SHALL		<a href="#">1101-30283</a>	2.16.840.1.113883.10.20.5.6.206
id	1..1	SHALL		<a href="#">1101-30284</a>	
@nullFlavor	1..1	SHALL		<a href="#">1101-30285</a>	NA
code	1..1	SHALL		<a href="#">1101-30286</a>	
@code	1..1	SHALL		<a href="#">1101-30287</a>	ASSERTION
@codeSystem	1..1	SHALL		<a href="#">1101-30288</a>	2.16.840.1.113883.5.4 (ActCode) = 2.16.840.1.113883.5.4
statusCode	1..1	SHALL		<a href="#">1101-30289</a>	
@code	1..1	SHALL		<a href="#">1101-30290</a>	2.16.840.1.113883.5.14 (ActStatus) = completed
value	1..1	SHALL	CD	<a href="#">1101-30291</a>	
@code	1..1	SHALL		<a href="#">1101-30292</a>	1238-5
@codeSystem	1..1	SHALL		<a href="#">1101-30293</a>	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:1101-30277).
  - a. If the value of @nullFlavor is set to NA then the value of @negationInd **SHALL NOT** be set (CONF:1101-30298).
2. **SHALL** contain exactly one [1..1] @classCode="OBS" (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6) (CONF:1101-30278).

3. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" (CodeSystem: ActMood 2.16.840.1.113883.5.1001) (CONF:1101-30279).
4. **MAY** contain zero or one [0..1] **@negationInd** (CONF:1101-30280).
  - a. 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:1101-30281).
5. **SHALL** contain exactly one [1..1] **templateId** (CONF:1101-30282) such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.5.6.206" (CONF:1101-30283).
6. **SHALL** contain exactly one [1..1] **id** (CONF:1101-30284).
  - a. This **id** **SHALL** contain exactly one [1..1] **@nullFlavor**="NA" (CONF:1101-30285).
7. **SHALL** contain exactly one [1..1] **code** (CONF:1101-30286).
  - a. This **code** **SHALL** contain exactly one [1..1] **@code**="ASSERTION" (CONF:1101-30287).
  - b. 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:1101-30288).
8. **SHALL** contain exactly one [1..1] **statusCode** (CONF:1101-30289).
  - a. This **statusCode** **SHALL** contain exactly one [1..1] **@code**="completed" (CodeSystem: ActStatus 2.16.840.1.113883.5.14) (CONF:1101-30290).
9. **SHALL** contain exactly one [1..1] **value** with **@xsi:type**="CD" (CONF:1101-30291).
  - a. 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:1101-30292).
  - b. 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:1101-30293).

**Figure 131: 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>
```

### 3.92 Sterile Barriers Applied Clinical Statement

[procedure: identifier urn:oid:2.16.840.1.113883.10.20.5.6.167 (closed)]

**Table 315: Sterile Barriers Applied Clinical Statement Contexts**

Contained By:	Contains:
<a href="#">Central-Line Insertion Preparation Organizer (V2)</a> (required)	

This clinical statement records sterile barriers applied. It is used in the first, preparatory step in the central-line insertion practice.

**Table 316: Sterile Barriers Applied Clinical Statement Constraints Overview**

XPath	Card.	Verb	Data Type	CONF#	Value
procedure (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.167)					
@classCode	1..1	SHALL		<a href="#">86-21531</a>	2.16.840.1.113883.5.6 (HL7ActClass) = PROC
@moodCode	1..1	SHALL		<a href="#">86-21532</a>	2.16.840.1.113883.5.1001 (ActMood) = EVN
@negationInd	1..1	SHALL		<a href="#">86-21533</a>	false
templateId	1..1	SHALL		<a href="#">86-28285</a>	
@root	1..1	SHALL		<a href="#">86-28286</a>	2.16.840.1.113883.10.20.22.4.14
templateId	1..1	SHALL		<a href="#">86-21558</a>	
@root	1..1	SHALL		<a href="#">86-21559</a>	2.16.840.1.113883.10.20.5.6.167
id	1..1	SHALL		<a href="#">86-21560</a>	
@nullFlavor	1..1	SHALL		<a href="#">86-22772</a>	
code	1..1	SHALL		<a href="#">86-21534</a>	
@code	1..1	SHALL	CD	<a href="#">86-21535</a>	2.16.840.1.113883.6.96 (SNOMED CT) = 370822003
statusCode	1..1	SHALL		<a href="#">86-21561</a>	
@code	1..1	SHALL		<a href="#">86-21562</a>	2.16.840.1.113883.5.14 (ActStatus) = completed
participant	0..*	MAY		<a href="#">86-21536</a>	
@typeCode	1..1	SHALL		<a href="#">86-21537</a>	2.16.840.1.113883.5.90 (HL7ParticipationType) = DEV
participantRole	1..1	SHALL		<a href="#">86-21538</a>	
@classCode	1..1	SHALL		<a href="#">86-21539</a>	2.16.840.1.113883.5.110 (RoleClass) = MANU
playingDevice	1..1	SHALL		<a href="#">86-21540</a>	
code	1..1	SHALL		<a href="#">86-21541</a>	2.16.840.1.114222.4.11.3184 (NHSNSterileBarrierCode)

1. Conforms to Procedure Activity Procedure template (identifier: urn: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:86-21531).
3. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:86-21532).
4. **SHALL** contain exactly one [1..1] **@negationInd**="false" (CONF:86-21533).
5. **SHALL** contain exactly one [1..1] **templateId** (CONF:86-28285) such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.22.4.14" (CONF:86-28286).
6. **SHALL** contain exactly one [1..1] **templateId** (CONF:86-21558) such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.5.6.167" (CONF:86-21559).
7. **SHALL** contain exactly one [1..1] **id** (CONF:86-21560).
  - a. This id **SHALL** contain exactly one [1..1] **@nullFlavor** (CONF:86-22772).
8. **SHALL** contain exactly one [1..1] **code** (CONF:86-21534).
  - a. 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:86-21535).
9. **SHALL** contain exactly one [1..1] **statusCode** (CONF:86-21561).
  - a. This statusCode **SHALL** contain exactly one [1..1] **@code**="completed" (CodeSystem: ActStatus 2.16.840.1.113883.5.14) (CONF:86-21562).
10. **MAY** contain zero or more [0..\*] **participant** (CONF:86-21536).
  - a. The participant, if present, **SHALL** contain exactly one [1..1] **@typeCode**="DEV" Device (CodeSystem: HL7ParticipationType 2.16.840.1.113883.5.90 **STATIC**) (CONF:86-21537).
  - b. The participant, if present, **SHALL** contain exactly one [1..1] **participantRole** (CONF:86-21538).
    - i. This participantRole **SHALL** contain exactly one [1..1] **@classCode**="MANU" (CodeSystem: RoleClass 2.16.840.1.113883.5.110 **STATIC**) (CONF:86-21539).
    - ii. This participantRole **SHALL** contain exactly one [1..1] **playingDevice** (CONF:86-21540).
      1. This playingDevice **SHALL** contain exactly one [1..1] **code**, which **SHALL** be selected from ValueSet [NHSNSterileBarrierCode](#) 2.16.840.1.114222.4.11.3184 **DYNAMIC** (CONF:86-21541).

**Table 317: 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 132: 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>

```

### 3.93 Summary Data Observation

[observation: identifier urn:oid:2.16.840.1.113883.10.20.5.6.185 (closed)]

**Table 318: Summary Data Observation Contexts**

Contained By:	Contains:
<a href="#">Summary Encounter</a> (required) <a href="#">Summary Encounter (NICU)</a> (required) <a href="#">Summary Data Observation (POM)</a> (optional) <a href="#">Summary Data Observation (VAT)</a> (optional) <a href="#">Summary Encounter Patient Presence (AUP)</a> (required) <a href="#">Summary Encounter (AUP)</a> (required) <a href="#">Summary Encounter (ARO)</a> (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.

The table of codes for a particular report what data are required at time of publication for the NHSN protocol. Accordingly, the Summary Encounter will contain the same number of Summary Data Observations as codes in the table.

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 319: Summary Data Observation Constraints Overview**

XPath	Card.	Verb	Data Type	CONF#	Value
observation (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.185)					
@classCode	1..1	SHALL		<a href="#">86-22407</a>	2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		<a href="#">86-22408</a>	2.16.840.1.113883.5.1001 (ActMood) = EVN
templateId	1..1	SHALL		<a href="#">86-22409</a>	
@root	1..1	SHALL		<a href="#">86-22410</a>	2.16.840.1.113883.10.20.5.6.185
code	1..1	SHALL		<a href="#">86-22411</a>	
statusCode	1..1	SHALL		<a href="#">86-22412</a>	
@code	1..1	SHALL		<a href="#">86-28189</a>	2.16.840.1.113883.5.14 (ActStatus) = completed
value	1..1	SHALL		<a href="#">86-22413</a>	

1. **SHALL** contain exactly one [1..1] **@classCode**="OBS" Observation (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 **STATIC**) (CONF:86-22407).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:86-22408).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:86-22409) such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.5.6.185" (CONF:86-22410).
4. **SHALL** contain exactly one [1..1] **code** (CONF:86-22411).
  - a. 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:86-28192).
  - b. 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:86-28193).
  - c. 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:86-28194).
  - d. 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:86-28195).
  - e. 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:86-28196).

- f. 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:86-28197).
- g. 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:86-28199).
5. **SHALL** contain exactly one [1..1] **statusCode** (CONF:86-22412).
  - a. This statusCode **SHALL** contain exactly one [1..1] **@code="completed"** Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14) (CONF:86-28189).
6. **SHALL** contain exactly one [1..1] **value** (CONF:86-22413).
  - a. 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:86-26183).

**Table 320: 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 321: 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
1826-7	cdcNHSN	2.16.840.1.113883.6.277	Number of new episodes of mechanical ventilation

**Table 322: 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 323: 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
1826-7	cdcNHSN	2.16.840.1.113883.6.277	Number of new episodes of mechanical ventilation

**Table 324: 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 325: 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 326: 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
1827-5	cdcNHSN	2.16.840.1.113883.6.277	Number of Patient Days adjusted for MDRO reporting (for inpatient location)
1828-3	cdcNHSN	2.16.840.1.113883.6.277	Number of Admissions adjusted for MDRO reporting (for inpatient location)
1829-1	cdcNHSN	2.16.840.1.113883.6.277	Number of Encounters adjusted for MDRO reporting (for outpatient location)

**Figure 133: Summary Data Observation Example—ICU**

```

<observation classCode="OBS" moodCode="EVN">
  <!-- Summary Data Observation templateId -->
  <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 134: 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">
    <!-- Summary Data Observation templateId -->
    <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 135: Summary Data Observation Example—SCA**

```
<observation classCode="OBS" moodCode="EVN">
  <!-- Summary Data Observation templateId -->
  <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>
```

### 3.94 Summary Data Observation (AUP)

[observation: identifier urn:oid:2.16.840.1.113883.10.20.5.6.194 (closed)]

**Table 327: Summary Data Observation (AUP) Contexts**

Contained By:	Contains:
<a href="#">Summary Encounter (AUP)</a> (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 328: Summary Data Observation (AUP) Constraints Overview**

XPath	Card.	Verb	Data Type	CONF#	Value
observation (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.194)					
@classCode	1..1	SHALL		<a href="#">86-22910</a>	2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		<a href="#">86-22911</a>	2.16.840.1.113883.5.1001 (ActMood) = EVN
templateId	1..1	SHALL		<a href="#">86-22912</a>	
@root	1..1	SHALL		<a href="#">86-22913</a>	2.16.840.1.113883.10.20.5.6.194
code	1..1	SHALL		<a href="#">86-22914</a>	
statusCode	1..1	SHALL		<a href="#">86-22915</a>	
@code	1..1	SHALL		<a href="#">86-28111</a>	2.16.840.1.113883.5.14 (ActStatus) = completed
value	1..1	SHALL		<a href="#">86-22916</a>	
methodCode	1..1	SHALL		<a href="#">86-23044</a>	2.16.840.1.114222.4.11.3361 (NHSNRouteOfAdministrationAUR PCode)

1. **SHALL** contain exactly one [1..1] **@classCode**="OBS" Observation (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 **STATIC**) (CONF:86-22910).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:86-22911).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:86-22912) such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.5.6.194" (CONF:86-22913).
4. **SHALL** contain exactly one [1..1] **code** (CONF:86-22914).
5. **SHALL** contain exactly one [1..1] **statusCode** (CONF:86-22915).
  - a. This statusCode **SHALL** contain exactly one [1..1] **@code**="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14) (CONF:86-28111).
6. **SHALL** contain exactly one [1..1] **value** (CONF:86-22916).
7. **SHALL** contain exactly one [1..1] **methodCode**, which **SHALL** be selected from ValueSet [NHSNRouteOfAdministrationAURPCode](#) 2.16.840.1.114222.4.11.3361 (CONF:86-23044).
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:86-22917).

**Table 329: NHSNRouteOfAdministrationAURPCode**

Value Set: NHSNRouteOfAdministrationAURPCode 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 136: Summary Data Observation (AUP) Example**

<pre> &lt;observation classCode="OBS" moodCode="EVN"&gt;   &lt;templateId root="2.16.840.1.113883.10.20.5.6.194" /&gt;   &lt;code codeSystem="2.16.840.1.113883.6.277"     codeSystemName="cdcNHSN"     code="2524-7"     displayName="Number of Therapy Days" /&gt;   &lt;statusCode code="completed" /&gt;   &lt;value xsi:type="PQ" unit="d" value="3" /&gt;   &lt;methodCode code="2523-9" codeSystemName="cdcNHSN"     codeSystem="2.16.840.1.113883.6.277"     displayName="Respiratory tract route"/&gt; &lt;/observation&gt; </pre>
---

### 3.95 Summary Data Observation (OPC)

[observation: identifier urn:oid:2.16.840.1.113883.10.20.5.6.214 (closed)]

**Table 330: Summary Data Observation (OPC) Contexts**

Contained By:	Contains:
<a href="#">Summary Encounter (OPC)</a> (required)	<a href="#">Procedure Category</a>

This template specializes the Summary Data Observation for an Outpatient Procedure Component (OPC) Summary Report.

The code element of the Summary Data Observation (OPC) identifies the datum being reported, and the value element records the number of admissions.

When recording the total number of admissions with a primary Current Procedural Terminology (CPT) code for the procedure category, an entryRelationship to the Procedure Category template is required.

**Table 331: Summary Data Observation (OPC) Constraints Overview**

XPath	Card.	Verb	Data Type	CONF#	Value
observation (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.214)					
@classCode	1..1	SHALL		<a href="#">1113-21830</a>	2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		<a href="#">1113-21831</a>	2.16.840.1.113883.5.1001 (ActMood) = EVN
templateId	1..1	SHALL		<a href="#">1113-21826</a>	
@root	1..1	SHALL		<a href="#">1113-21832</a>	2.16.840.1.113883.10.20.5.6.214
code	1..1	SHALL		<a href="#">1113-21827</a>	OPCSummaryData (Codes for Outpatient Procedure Component (OPC) Summary)
statusCode	1..1	SHALL		<a href="#">1113-21828</a>	
@code	1..1	SHALL		<a href="#">1113-21839</a>	2.16.840.1.113883.5.14 (ActStatus) = completed
value	1..1	SHALL	INT	<a href="#">1113-21829</a>	
@value	1..1	SHALL		<a href="#">1113-21840</a>	
entryRelationship	0..1	MAY		<a href="#">1113-21850</a>	
@typeCode	1..1	SHALL		<a href="#">1113-21851</a>	2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR
procedure	1..1	SHALL		<a href="#">1113-21852</a>	<a href="#">Procedure Category (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.215</a>

1. **SHALL** contain exactly one [1..1] **@classCode**="OBS" Observation (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 **STATIC**) (CONF:1113-21830).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:1113-21831).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:1113-21826) such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.5.6.214" (CONF:1113-21832).

4. **SHALL** contain exactly one [1..1] **code**, which **SHALL** be selected from ValueSet [Codes for Outpatient Procedure Component \(OPC\) Summary](#) OPCSummaryData **STATIC** (CONF:1113-21827).
5. **SHALL** contain exactly one [1..1] **statusCode** (CONF:1113-21828).
  - a. This statusCode **SHALL** contain exactly one [1..1] **@code**="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14) (CONF:1113-21839).
6. **SHALL** contain exactly one [1..1] **value** with **@xsi:type**="INT" (CONF:1113-21829).
  - a. This value **SHALL** contain exactly one [1..1] **@value** (CONF:1113-21840).  
Note: Number of admissions
7. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:1113-21850).
  - a. The entryRelationship, if present, **SHALL** contain exactly one [1..1] **@typeCode**="REFR" (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002) (CONF:1113-21851).
  - b. The entryRelationship, if present, **SHALL** contain exactly one [1..1] [Procedure Category](#) (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.215) (CONF:1113-21852).
  - c. To record total number of admissions with a primary CPT code for the procedure category (code/**@code** 1644-4), this observation **SHALL** contain this entryRelationship (CONF:1113-21853).

**Table 332: Codes for Outpatient Procedure Component (OPC) Summary**

Value Set: Codes for Outpatient Procedure Component (OPC) Summary OPCSummaryData 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 OPC 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
1641-0	cdcNHSN	2.16.840.1.113883.6.277	Number of admission with an order for a prophylactic IV antibiotic that was administered on time
1642-8	cdcNHSN	2.16.840.1.113883.6.277	Number of admission with an order for a prophylactic IV antibiotic that was NOT administered on time
1643-6	cdcNHSN	2.16.840.1.113883.6.277	Number of admission with no order for a prophylactic IV antibiotic
1644-4	cdcNHSN	2.16.840.1.113883.6.277	Total number of admissions with a primary CPT code for this Procedure Category
1862-2	cdcNHSN	2.16.840.1.113883.6.277	Number of admissions



**Figure 137: Summary Data Observation (OPC) Example**

```
<observation classCode="OBS" moodCode="EVN">
  <!-- Summary Data Observation (OPC) templateId -->
  <templateId root="2.16.840.1.113883.10.20.5.6.214" />
  <code code="1644-4"
    codeSystem="2.16.840.1.113883.6.270"
    codeSystemName="cdcNHSN"
    displayName="Total number of admissions with a primary CPT code for this
      Procedure Category" />
  <statusCode code="completed" />
  <value xsi:type="INT" value="3" />
  <entryRelationship typeCode="REFR">
    <!-- Procedure Category -->
    <procedure classCode="PROC" moodCode="EVN">
      <!-- Procedure Category templateId -->
      <templateId root="2.16.840.1.113883.10.20.5.6.215" />
      ...
    </procedure>
  </entryRelationship>
</observation>
```

### 3.96 Summary Data Observation (POM)

[observation: identifier urn:oid:2.16.840.1.113883.10.20.5.6.192 (closed)]

**Table 333: Summary Data Observation (POM) Contexts**

Contained By:	Contains:
<a href="#">Summary Encounter (POM)</a> (required)	<a href="#">Summary Data Observation</a>

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 334: Summary Data Observation (POM) Constraints Overview**

XPath	Card.	Verb	Data Type	CONF#	Value
observation (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.192)					
@classCode	1..1	SHALL		<a href="#">86-22855</a>	2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		<a href="#">86-22856</a>	2.16.840.1.113883.5.1001 (ActMood) = EVN
templateId	1..1	SHALL		<a href="#">86-22857</a>	
@root	1..1	SHALL		<a href="#">86-22858</a>	2.16.840.1.113883.10.20.5.6.192
code	1..1	SHALL		<a href="#">86-22859</a>	
statusCode	1..1	SHALL		<a href="#">86-22860</a>	
@code	1..1	SHALL		<a href="#">86-28112</a>	2.16.840.1.113883.5.14 (ActStatus) = completed
value	1..1	SHALL		<a href="#">86-22861</a>	
entryRelationship	0..*	MAY		<a href="#">86-23372</a>	
observation	1..1	SHALL		<a href="#">86-23373</a>	<a href="#">Summary Data Observation (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.185</a>

1. **SHALL** contain exactly one [1..1] **@classCode**="OBS" Observation (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 **STATIC**) (CONF:86-22855).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:86-22856).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:86-22857) such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.5.6.192" (CONF:86-22858).
4. **SHALL** contain exactly one [1..1] **code** (CONF:86-22859).
5. **SHALL** contain exactly one [1..1] **statusCode** (CONF:86-22860).
  - a. This statusCode **SHALL** contain exactly one [1..1] **@code**="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14) (CONF:86-28112).
6. **SHALL** contain exactly one [1..1] **value** (CONF:86-22861).
  - a. 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:86-22862).

- b. 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:86-22863).
  - c. 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:86-22864).
  - d. 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:86-23371).
7. **MAY** contain zero or more [0..\*] **entryRelationship** (CONF:86-23372).
- a. The entryRelationship, if present, **SHALL** contain exactly one [1..1] [Summary Data Observation](#) (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.185) (CONF:86-23373).
  - b. 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:86-23374).

**Table 335: 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 336: 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 337: 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 138: 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 -->
<observation classCode="OBS" moodCode="EVN">
  <!-- Summary Data Observation (POM) templateId -->
  <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>
    <observation classCode="OBS" moodCode="EVN">
      <!-- Summary Data Observation templateId -->
      <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">
      <!-- Summary Data Observation templateId -->
      <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 -->
```

### 3.97 Summary Data Observation (VAT)

[observation: identifier urn:oid:2.16.840.1.113883.10.20.5.6.195 (closed)]

**Table 338: Summary Data Observation (VAT) Contexts**

Contained By:	Contains:
<a href="#">Summary Encounter (VAT)</a> (required)	<a href="#">Summary Data Observation</a>

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 339: Summary Data Observation (VAT) Constraints Overview**

XPath	Card.	Verb	Data Type	CONF#	Value
observation (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.195)					
@classCode	1..1	SHALL		<a href="#">86-22933</a>	2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		<a href="#">86-22934</a>	2.16.840.1.113883.5.1001 (ActMood) = EVN
templateId	1..1	SHALL		<a href="#">86-22935</a>	
@root	1..1	SHALL		<a href="#">86-22936</a>	2.16.840.1.113883.10.20.5.6.195
code	1..1	SHALL		<a href="#">86-22937</a>	VATDialysisSummaryData (Codes for Vascular Access Type (Dialysis) Summary Data)
statusCode	1..1	SHALL		<a href="#">86-22938</a>	2.16.840.1.113883.5.14 (ActStatus)
@code	1..1	SHALL		<a href="#">86-28113</a>	2.16.840.1.113883.5.14 (ActStatus) = completed
value	1..1	SHALL		<a href="#">86-22939</a>	
entryRelationship	0..1	MAY		<a href="#">86-22940</a>	
@typeCode	1..1	SHALL		<a href="#">86-22941</a>	2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = COMP
observation	1..1	SHALL		<a href="#">86-22942</a>	<a href="#">Summary Data Observation (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.185</a>

1. **SHALL** contain exactly one [1..1] @classCode="OBS" Observation (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 **STATIC**) (CONF:86-22933).
2. **SHALL** contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:86-22934).

3. **SHALL** contain exactly one [1..1] **templateId** (CONF:86-22935) such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.5.6.195" (CONF:86-22936).
4. **SHALL** contain exactly one [1..1] **code**, which **SHOULD** be selected from ValueSet [Codes for Vascular Access Type \(Dialysis\) Summary Data](#) VATDialysisSummaryData **DYNAMIC** (CONF:86-22937).
5. **SHALL** contain exactly one [1..1] **statusCode** (CodeSystem: ActStatus 2.16.840.1.113883.5.14 **STATIC**) (CONF:86-22938).
  - a. This statusCode **SHALL** contain exactly one [1..1] **@code**="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14) (CONF:86-28113).
6. **SHALL** contain exactly one [1..1] **value** (CONF:86-22939).
7. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:86-22940).
  - a. The entryRelationship, if present, **SHALL** contain exactly one [1..1] **@typeCode**="COMP" (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002) (CONF:86-22941).
  - b. The entryRelationship, if present, **SHALL** contain exactly one [1..1] [Summary Data Observation](#) (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.185) (CONF:86-22942).
  - c. 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:86-22943).
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:86-22944).

**Figure 139: Summary Data Observation (VAT) Example**

```
<observation classCode="OBS" moodCode="EVN">
  <!-- Summary Data Observation (VAT) templateId -->
  <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">
      <!-- Summary Data Observation templateId -->
      <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>
```

### 3.98 Summary Encounter

[encounter: identifier urn:oid:2.16.840.1.113883.10.20.5.6.184 (closed)]

**Table 340: Summary Encounter Contexts**

Contained By:	Contains:
<a href="#">Summary Data Section</a> (required)	<a href="#">Summary Data Observation</a>

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.

The table of codes for a particular report what data are required at time of publication for the NHSN protocol. Accordingly, the Summary Encounter will contain the same number of Summary Data Observations as codes in the table.

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 341: Summary Encounter Constraints Overview**

XPath	Card.	Verb	Data Type	CONF#	Value
encounter (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.184)					
@classCode	1..1	SHALL		<a href="#">86-22392</a>	2.16.840.1.113883.5.6 (HL7ActClass) = ENC
@moodCode	1..1	SHALL		<a href="#">86-22393</a>	2.16.840.1.113883.5.1001 (ActMood) = EVN
templateId	1..1	SHALL		<a href="#">86-22394</a>	
@root	1..1	SHALL		<a href="#">86-22395</a>	2.16.840.1.113883.10.20.5.6.184
participant	1..1	SHALL		<a href="#">86-22397</a>	
@typeCode	1..1	SHALL		<a href="#">86-22398</a>	2.16.840.1.113883.5.90 (HL7ParticipationType) = LOC
participantRole	1..1	SHALL		<a href="#">86-22399</a>	
@classCode	1..1	SHALL		<a href="#">86-22400</a>	2.16.840.1.113883.5.41 (EntityClass) = SDLOC
entryRelationship	1..*	SHALL		<a href="#">86-22404</a>	
@typeCode	1..1	SHALL		<a href="#">86-22405</a>	2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = COMP
observation	1..1	SHALL		<a href="#">86-22406</a>	<a href="#">Summary Data Observation (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.185</a>

1. **SHALL** contain exactly one [1..1] **@classCode="ENC"** Encounter (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 **STATIC**) (CONF:86-22392).
2. **SHALL** contain exactly one [1..1] **@moodCode="EVN"** Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:86-22393).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:86-22394) such that it
  - a. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.5.6.184"** (CONF:86-22395).
4. **SHALL** contain exactly one [1..1] **participant** (CONF:86-22397) such that it
  - a. **SHALL** contain exactly one [1..1] **@typeCode="LOC"** Location (CodeSystem: HL7ParticipationType 2.16.840.1.113883.5.90 **STATIC**) (CONF:86-22398).
  - b. **SHALL** contain exactly one [1..1] **participantRole** (CONF:86-22399).

- i. This participantRole **SHALL** contain exactly one [1..1] @classCode="SDLOC" Service Delivery Location (CodeSystem: EntityClass 2.16.840.1.113883.5.41 **STATIC**) (CONF:86-22400).
  - ii. 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:86-22401).
  - iii. Or, if recording data from the whole facility, the participantRole element shall contain an id element with @root (CONF:86-22402).
  - iv. 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:86-22403).
- 5. **SHALL** contain at least one [1..\*] entryRelationship (CONF:86-22404).
  - a. Such entryRelationships **SHALL** contain exactly one [1..1] @typeCode="COMP" Has component (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002 **STATIC**) (CONF:86-22405).
  - b. Such entryRelationships **SHALL** contain exactly one [1..1] [Summary Data Observation](#) (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.185) (CONF:86-22406).

**Figure 140: Summary Encounter Example**

```
<encounter classCode="ENC" moodCode="EVN">
  <!-- Summary Encounter templateId -->
  <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">
      <!-- Summary Data Observation templateId -->
      <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">
      <!-- Summary Data Observation templateId -->
      <templateId root="2.16.840.1.113883.10.20.5.6.185" />
      ...
    </observation>
  </entryRelationship>
  ...
</entryRelationship>
</encounter>
```

### 3.99 Summary Encounter (ARO)

[encounter: identifier urn:oid:2.16.840.1.113883.10.20.5.6.199 (closed)]

**Table 342: Summary Encounter (ARO) Contexts**

Contained By:	Contains:
<a href="#">Summary Data Section (ARO)</a> (required)	<a href="#">Summary Data Observation</a>

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 343: Summary Encounter (ARO) Constraints Overview**

XPath	Card.	Verb	Data Type	CONF#	Value
encounter (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.199)					
@classCode	1..1	SHALL		<a href="#">86-23077</a>	2.16.840.1.113883.5.6 (HL7ActClass) = ENC
@moodCode	1..1	SHALL		<a href="#">86-23078</a>	2.16.840.1.113883.5.1001 (ActMood) = EVN
templateId	1..1	SHALL		<a href="#">86-23079</a>	
@root	1..1	SHALL		<a href="#">86-23080</a>	2.16.840.1.113883.10.20.5.6.199
participant	1..1	SHALL		<a href="#">86-23081</a>	
@typeCode	1..1	SHALL		<a href="#">86-23082</a>	2.16.840.1.113883.5.90 (HL7ParticipationType) = LOC
participantRole	1..1	SHALL		<a href="#">86-23083</a>	
@classCode	1..1	SHALL		<a href="#">86-23084</a>	2.16.840.1.113883.5.41 (EntityClass) = SDLOC
id	1..1	SHALL		<a href="#">86-23085</a>	
@root	1..1	SHALL		<a href="#">86-23086</a>	
@extension	1..1	SHALL		<a href="#">86-23087</a>	FACWIDEIN
code	1..1	SHALL		<a href="#">86-23088</a>	2.16.840.1.113883.6.259 (HL7 HealthcareServiceLocation)
@code	1..1	SHALL		<a href="#">86-23089</a>	1250-0
@codeSystem	1..1	SHALL		<a href="#">86-23090</a>	2.16.840.1.113883.6.259
@displayName	1..1	SHOULD		<a href="#">86-23091</a>	Facility Wide Inpatient
entryRelationship	1..*	SHALL		<a href="#">86-23092</a>	
@typeCode	1..1	SHALL		<a href="#">86-23093</a>	2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = COMP
observation	1..1	SHALL		<a href="#">86-23094</a>	<a href="#">Summary Data Observation (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.185)</a>

1. **SHALL** contain exactly one [1..1] @classCode="ENC" Encounter (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 **STATIC**) (CONF:86-23077).

2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:86-23078).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:86-23079) such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.5.6.199" (CONF:86-23080).
4. **SHALL** contain exactly one [1..1] **participant** (CONF:86-23081) such that it
  - a. **SHALL** contain exactly one [1..1] **@typeCode**="LOC" Location (CodeSystem: HL7ParticipationType 2.16.840.1.113883.5.90 **STATIC**) (CONF:86-23082).
  - b. **SHALL** contain exactly one [1..1] **participantRole** (CONF:86-23083).
    - i. This participantRole **SHALL** contain exactly one [1..1] **@classCode**="SDLOC" Service Delivery Location (CodeSystem: EntityClass 2.16.840.1.113883.5.41 **STATIC**) (CONF:86-23084).
    - ii. This participantRole **SHALL** contain exactly one [1..1] **id** (CONF:86-23085).
      1. This id **SHALL** contain exactly one [1..1] **@root** (CONF:86-23086).
      2. This id **SHALL** contain exactly one [1..1] **@extension**="FACWIDEIN" (CONF:86-23087).
    - iii. This participantRole **SHALL** contain exactly one [1..1] **code** (CodeSystem: HL7 HealthcareServiceLocation 2.16.840.1.113883.6.259 **DYNAMIC**) (CONF:86-23088).
      1. This code **SHALL** contain exactly one [1..1] **@code**="1250-0" (CONF:86-23089).
      2. This code **SHALL** contain exactly one [1..1] **@codeSystem**="2.16.840.1.113883.6.259" (CONF:86-23090).
      3. This code **SHOULD** contain exactly one [1..1] **@displayName**="Facility Wide Inpatient" (CONF:86-23091).
5. **SHALL** contain at least one [1..\*] **entryRelationship** (CONF:86-23092).
  - a. Such entryRelationships **SHALL** contain exactly one [1..1] **@typeCode**="COMP" Has component (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002 **STATIC**) (CONF:86-23093).
  - b. Such entryRelationships **SHALL** contain exactly one [1..1] Summary Data Observation (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.185) (CONF:86-23094).

**Figure 141: Summary Encounter (ARO) Example**

```
<!-- Summary Encounter -->
<encounter classCode="ENC" moodCode="EVN">
  <!-- Summary Encounter (ARO) templateId -->
  <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">
      <!-- Summary Data Observation templateId -->
      <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">
      <!-- Summary Data Observation templateId -->
      <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">
    <!-- Summary Data Observation templateId -->
    <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>
```

### 3.100Summary Encounter (AUP)

[encounter: identifier urn:oid:2.16.840.1.113883.10.20.5.6.198 (closed)]

**Table 344: Summary Encounter (AUP) Contexts**

Contained By:	Contains:
<a href="#">Summary Data Section (AUP)</a> (required)	<a href="#">Summary Data Observation</a> <a href="#">Summary Data Observation (AUP)</a>

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 345: Summary Encounter (AUP) Constraints Overview**

<b>XPath</b>	<b>Card.</b>	<b>Verb</b>	<b>Data Type</b>	<b>CONF#</b>	<b>Value</b>
encounter (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.198)					
@classCode	1..1	SHALL		<a href="#">86-23019</a>	2.16.840.1.113883.5.6 (HL7ActClass) = ENC
@moodCode	1..1	SHALL		<a href="#">86-23020</a>	2.16.840.1.113883.5.1001 (ActMood) = EVN
templateId	1..1	SHALL		<a href="#">86-23021</a>	
@root	1..1	SHALL		<a href="#">86-23022</a>	2.16.840.1.113883.10.20.5.6.198
participant	1..1	SHALL		<a href="#">86-23023</a>	
@typeCode	1..1	SHALL		<a href="#">86-23024</a>	2.16.840.1.113883.5.90 (HL7ParticipationType) = LOC
participantRole	1..1	SHALL		<a href="#">86-23025</a>	
@classCode	1..1	SHALL		<a href="#">86-23026</a>	2.16.840.1.113883.5.41 (EntityClass) = SDLOC
participant	1..1	SHALL		<a href="#">86-23030</a>	
@typeCode	1..1	SHALL		<a href="#">86-23031</a>	2.16.840.1.113883.5.90 (HL7ParticipationType) = CSM
participantRole	1..1	SHALL		<a href="#">86-23032</a>	
@classCode	0..1	MAY		<a href="#">86-23033</a>	2.16.840.1.113883.5.110 (RoleClass) = MANU
code	1..1	SHALL		<a href="#">86-23034</a>	2.16.840.1.114222.4.11.3360 (NHSNAntimicrobialAgentAURPC ode)
entryRelationship	1..1	SHALL		<a href="#">86-23036</a>	
@typeCode	1..1	SHALL		<a href="#">86-23037</a>	2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = COMP
observation	1..1	SHALL		<a href="#">86-23038</a>	<a href="#">Summary Data Observation (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.185</a>
entryRelationship	4..4	SHALL		<a href="#">86-23040</a>	
@typeCode	1..1	SHALL		<a href="#">86-23041</a>	2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = COMP
observation	1..1	SHALL		<a href="#">86-23042</a>	<a href="#">Summary Data Observation (AUP) (identifier: urn:oid:2.16.840.1.113883.10.20.</a>

					<a href="#">5.6.194</a>
--	--	--	--	--	-------------------------

1. **SHALL** contain exactly one [1..1] **@classCode="ENC"** Encounter (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 **STATIC**) (CONF:86-23019).
2. **SHALL** contain exactly one [1..1] **@moodCode="EVN"** Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:86-23020).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:86-23021) such that it
  - a. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.5.6.198"** (CONF:86-23022).
4. **SHALL** contain exactly one [1..1] **participant** (CONF:86-23023) such that it
  - a. **SHALL** contain exactly one [1..1] **@typeCode="LOC"** Location (CodeSystem: HL7ParticipationType 2.16.840.1.113883.5.90 **STATIC**) (CONF:86-23024).
  - b. **SHALL** contain exactly one [1..1] **participantRole** (CONF:86-23025).
    - i. This participantRole **SHALL** contain exactly one [1..1] **@classCode="SDLOC"** Service Delivery Location (CodeSystem: EntityClass 2.16.840.1.113883.5.41 **STATIC**) (CONF:86-23026).
    - ii. 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:86-23027).
    - iii. Or, if recording data from the whole facility, the participantRole element shall contain an id element with **@root** (CONF:86-23028).
    - iv. 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:86-23029).
5. **SHALL** contain exactly one [1..1] **participant** (CONF:86-23030) such that it
  - a. **SHALL** contain exactly one [1..1] **@typeCode="CSM"** Consumable (CodeSystem: HL7ParticipationType 2.16.840.1.113883.5.90) (CONF:86-23031).
  - b. **SHALL** contain exactly one [1..1] **participantRole** (CONF:86-23032).
    - i. This participantRole **MAY** contain zero or one [0..1] **@classCode="MANU"** (CodeSystem: RoleClass 2.16.840.1.113883.5.110) (CONF:86-23033).
    - ii. This participantRole **SHALL** contain exactly one [1..1] **code**, which **SHALL** be selected from ValueSet [NHSNAntimicrobialAgentAURPCode](#) 2.16.840.1.114222.4.11.3360 **DYNAMIC** (CONF:86-23034).
6. **SHALL** contain exactly one [1..1] **entryRelationship** (CONF:86-23036) such that it
  - a. **SHALL** contain exactly one [1..1] **@typeCode="COMP"** Has component (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002 **STATIC**) (CONF:86-23037).
  - b. **SHALL** contain exactly one [1..1] [Summary Data Observation](#) (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.185) (CONF:86-23038).

- c. 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:86-23039).
- 7. **SHALL** contain [4..4] **entryRelationship** (CONF:86-23040) such that it
  - a. **SHALL** contain exactly one [1..1] **@typeCode="COMP"** (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002) (CONF:86-23041).
  - b. **SHALL** contain exactly one [1..1] **Summary Data Observation (AUP)** (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.194) (CONF:86-23042).
  - c. 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:86-23043).

**Figure 142: Summary Encounter (AUP) Example**

```
<!-- encounter reporting data for one antimicrobial -->
<encounter classCode="ENC" moodCode="EVN">
  <!-- Summary Encounter (AUP) templateId -->
  <templateId root="2.16.840.1.113883.10.20.5.6.198"/>
  <!-- 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>
  <!-- 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>
  <!-- first of five data observations -->
  <entryRelationship typeCode="COMP">
    <observation classCode="OBS" moodCode="EVN">
      <!-- Summary Data Observation templateId -->
      <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 -->
      <templateId root="2.16.840.1.113883.10.20.5.6.194"/>
      ...
    </observation>
  </entryRelationship>
</encounter>
<!-- end of encounter for this antimicrobial -->
```

### 3.101 Summary Encounter (NICU)

[encounter: identifier urn:oid:2.16.840.1.113883.10.20.5.6.191 (closed)]

**Table 346: Summary Encounter (NICU) Contexts**

Contained By:	Contains:
<a href="#">Summary Data Section (NICU)</a> (required)	<a href="#">Summary Data Observation</a>

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 347: Summary Encounter (NICU) Constraints Overview**

XPath	Card.	Verb	Data Type	CONF#	Value
encounter (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.191)					
@classCode	1..1	SHALL		<a href="#">86-22817</a>	2.16.840.1.113883.5.6 (HL7ActClass) = ENC
@moodCode	1..1	SHALL		<a href="#">86-22818</a>	2.16.840.1.113883.5.1001 (ActMood) = EVN
templateId	1..1	SHALL		<a href="#">86-22819</a>	
@root	1..1	SHALL		<a href="#">86-22820</a>	2.16.840.1.113883.10.20.5.6.191
participant	1..1	SHALL		<a href="#">86-22821</a>	
@typeCode	1..1	SHALL		<a href="#">86-22822</a>	2.16.840.1.113883.5.90 (HL7ParticipationType) = LOC
participantRole	1..1	SHALL		<a href="#">86-22823</a>	
@classCode	1..1	SHALL		<a href="#">86-22824</a>	2.16.840.1.113883.5.41 (EntityClass) = SDLOC
participant	1..1	SHALL		<a href="#">86-22828</a>	
@typeCode	1..1	SHALL		<a href="#">86-22829</a>	2.16.840.1.113883.5.90 (HL7ParticipationType) = SBJ
participantRole	1..1	SHALL		<a href="#">86-22830</a>	
@classCode	1..1	SHALL		<a href="#">86-22831</a>	2.16.840.1.113883.5.41 (EntityClass) = PRS
code	1..1	SHALL		<a href="#">86-22832</a>	2.16.840.1.114222.4.11.3234 (NHSNPopulationCategoryCode)
entryRelationship	1..*	SHALL		<a href="#">86-22834</a>	
@typeCode	1..1	SHALL		<a href="#">86-22835</a>	2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = COMP
observation	1..1	SHALL		<a href="#">86-22836</a>	<a href="#">Summary Data Observation (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.185)</a>

1. **SHALL** contain exactly one [1..1] @classCode="ENC" Encounter (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 **STATIC**) (CONF:86-22817).
2. **SHALL** contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:86-22818).
3. **SHALL** contain exactly one [1..1] templateId (CONF:86-22819) such that it

- a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.5.6.191" (CONF:86-22820).
- 4. **SHALL** contain exactly one [1..1] **participant** (CONF:86-22821) such that it
  - a. **SHALL** contain exactly one [1..1] **@typeCode**="LOC" Location (CodeSystem: HL7ParticipationType 2.16.840.1.113883.5.90 **STATIC**) (CONF:86-22822).
  - b. **SHALL** contain exactly one [1..1] **participantRole** (CONF:86-22823).
    - i. This participantRole **SHALL** contain exactly one [1..1] **@classCode**="SDLOC" Service Delivery Location (CodeSystem: EntityClass 2.16.840.1.113883.5.41 **STATIC**) (CONF:86-22824).
    - ii. 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:86-22825).
    - iii. Or, if recording data from the whole facility, the participantRole element shall contain an id element with **@root** (CONF:86-22826).
    - iv. 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:86-22827).
- 5. **SHALL** contain exactly one [1..1] **participant** (CONF:86-22828) such that it
  - a. **SHALL** contain exactly one [1..1] **@typeCode**="SBJ" (CodeSystem: HL7ParticipationType 2.16.840.1.113883.5.90) (CONF:86-22829).
  - b. **SHALL** contain exactly one [1..1] **participantRole** (CONF:86-22830).
    - i. This participantRole **SHALL** contain exactly one [1..1] **@classCode**="PRS" (CodeSystem: EntityClass 2.16.840.1.113883.5.41) (CONF:86-22831).
    - ii. This participantRole **SHALL** contain exactly one [1..1] **code**, which **SHALL** be selected from ValueSet [NHSNPopulationCategoryCode](#) 2.16.840.1.114222.4.11.3234 **STATIC** 2009-06-25 (CONF:86-22832).
- 6. **SHALL** contain at least one [1..\*] **entryRelationship** (CONF:86-22834).
  - a. Such entryRelationships **SHALL** contain exactly one [1..1] **@typeCode**="COMP" Has component (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002 **STATIC**) (CONF:86-22835).
  - b. Such entryRelationships **SHALL** contain exactly one [1..1] [Summary Data Observation](#) (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.185) (CONF:86-22836).

**Table 348: 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 143: Summary Encounter (NICU) Example**

```
<encounter classCode="ENC" moodCode="EVN">
  <!--Summary Encounter (NICU) templateId -->
  <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">
      <!--Summary Data Observation templateId -->
      <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">
      <!--Summary Data Observation templateId -->
      <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">
      <!--Summary Data Observation templateId -->
      <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">
        <!--Summary Data Observation templateId -->
        <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>

```

### 3.102 Summary Encounter (OPC)

[encounter: identifier urn:oid:2.16.840.1.113883.10.20.5.6.213 (closed)]

**Table 349: Summary Encounter (OPC) Contexts**

Contained By:	Contains:
<a href="#">Summary Data Section (OPC)</a> (required)	<a href="#">Summary Data Observation (OPC)</a>

The Summary Encounter (OPC) 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 (OPC). The data requirements at time of publication are shown in a table under the Summary Data Observation (OPC) template.

**Table 350: Summary Encounter (OPC) Constraints Overview**

XPath	Card.	Verb	Data Type	CONF#	Value
encounter (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.213)					
@classCode	1..1	SHALL		<a href="#">1113-21815</a>	2.16.840.1.113883.5.6 (HL7ActClass) = ENC
@moodCode	1..1	SHALL		<a href="#">1113-21816</a>	2.16.840.1.113883.5.1001 (ActMood) = EVN
templateId	1..1	SHALL		<a href="#">1113-21809</a>	
@root	1..1	SHALL		<a href="#">1113-21817</a>	2.16.840.1.113883.10.20.5.6.213
entryRelationship	1..*	SHALL		<a href="#">1113-21808</a>	
@typeCode	1..1	SHALL		<a href="#">1113-21825</a>	2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = COMP
observation	1..1	SHALL		<a href="#">1113-21814</a>	<a href="#">Summary Data Observation (OPC) (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.214</a>

1. **SHALL** contain exactly one [1..1] @classCode="ENC" Encounter (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 **STATIC**) (CONF:1113-21815).
2. **SHALL** contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:1113-21816).
3. **SHALL** contain exactly one [1..1] templateId (CONF:1113-21809) such that it
  - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.6.213" (CONF:1113-21817).
4. **SHALL** contain at least one [1..\*] entryRelationship (CONF:1113-21808).
  - a. Such entryRelationships **SHALL** contain exactly one [1..1] @typeCode="COMP" Has component (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002 **STATIC**) (CONF:1113-21825).
  - b. Such entryRelationships **SHALL** contain exactly one [1..1] [Summary Data Observation \(OPC\)](#) (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.214) (CONF:1113-21814).

**Figure 144: Summary Encounter (OPC) Example**

```
<encounter classCode="ENC" moodCode="EVN">
  <!-- Summary Encounter (OPC) templateId -->
  <templateId root="2.16.840.1.113883.10.20.5.6.213" />
  <entryRelationship typeCode="COMP">
    <!-- Summary Data Observation (OPC) -->
    <observation classCode="OBS" moodCode="EVN">
      <!-- Summary Data Observation (OPC) templateId -->
      <templateId root="2.16.840.1.113883.10.20.5.6.214" />
      ...
    </observation>
  </entryRelationship>
  <entryRelationship typeCode="COMP">
    <!-- Summary Data Observation (OPC) -->
    <observation classCode="OBS" moodCode="EVN">
      <!-- Summary Data Observation (OPC) templateId -->
      <templateId root="2.16.840.1.113883.10.20.5.6.214" />
      ...
    </observation>
  </entryRelationship>
  ...
</encounter>
```

### 3.103 Summary Encounter (POM)

[encounter: identifier urn:oid:2.16.840.1.113883.10.20.5.6.193 (closed)]

**Table 351: Summary Encounter (POM) Contexts**

Contained By:	Contains:
<a href="#">Summary Data Section (POM) [V2]</a> (required)	<a href="#">Summary Data Observation (POM)</a>

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 352: Summary Encounter (POM) Constraints Overview**

XPath	Card.	Verb	Data Type	CONF#	Value
encounter (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.193)					
@classCode	1..1	SHALL		<a href="#">86-22866</a>	2.16.840.1.113883.5.6 (HL7ActClass) = ENC
@moodCode	1..1	SHALL		<a href="#">86-22867</a>	2.16.840.1.113883.5.1001 (ActMood) = EVN
templateId	1..1	SHALL		<a href="#">86-22868</a>	
@root	1..1	SHALL		<a href="#">86-22869</a>	2.16.840.1.113883.10.20.5.6.193
participant	1..1	SHALL		<a href="#">86-22870</a>	
@typeCode	1..1	SHALL		<a href="#">86-22871</a>	2.16.840.1.113883.5.90 (HL7ParticipationType) = LOC
participantRole	1..1	SHALL		<a href="#">86-22872</a>	
@classCode	1..1	SHALL		<a href="#">86-22873</a>	2.16.840.1.113883.5.41 (EntityClass) = SDLOC
entryRelationship	1..*	SHALL		<a href="#">86-22877</a>	
@typeCode	1..1	SHALL		<a href="#">86-22878</a>	2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = COMP
observation	1..1	SHALL		<a href="#">86-22879</a>	<a href="#">Summary Data Observation (POM) (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.192</a>

1. **SHALL** contain exactly one [1..1] **@classCode="ENC"** Encounter (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 **STATIC**) (CONF:86-22866).
2. **SHALL** contain exactly one [1..1] **@moodCode="EVN"** Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:86-22867).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:86-22868) such that it
  - a. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.5.6.193"** (CONF:86-22869).
4. **SHALL** contain exactly one [1..1] **participant** (CONF:86-22870) such that it
  - a. **SHALL** contain exactly one [1..1] **@typeCode="LOC"** Location (CodeSystem: HL7ParticipationType 2.16.840.1.113883.5.90 **STATIC**) (CONF:86-22871).
  - b. **SHALL** contain exactly one [1..1] **participantRole** (CONF:86-22872).
    - i. This participantRole **SHALL** contain exactly one [1..1] **@classCode="SDLOC"** Service Delivery Location (CodeSystem: EntityClass 2.16.840.1.113883.5.41 **STATIC**) (CONF:86-22873).
    - ii. 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:86-22874).

- iii. Or, if recording data from the whole facility, the participantRole element shall contain an id element with @root (CONF:86-22875).
  - iv. 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:86-22876).
5. **SHALL** contain at least one [1..\*] **entryRelationship** (CONF:86-22877).
- a. Such entryRelationships **SHALL** contain exactly one [1..1] **@typeCode="COMP"** Has component (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002 **STATIC**) (CONF:86-22878).
  - b. Such entryRelationships **SHALL** contain exactly one [1..1] Summary Data Observation (POM) (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.192) (CONF:86-22879).

**Figure 145: Summary Encounter (POM) Example**

```
<encounter classCode="ENC" moodCode="EVN">
  <!-- Summary Encounter (POM) (R1) -->
  <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>

```

### 3.104 Summary Encounter (VAT)

[encounter: identifier urn:oid:2.16.840.1.113883.10.20.5.6.196 (closed)]

**Table 353: Summary Encounter (VAT) Contexts**

Contained By:	Contains:
<a href="#">Summary Data Section (VAT)</a> (required)	<a href="#">Summary Data Observation (VAT)</a>

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 354: Summary Encounter (VAT) Constraints Overview**

XPath	Card.	Verb	Data Type	CONF#	Value
encounter (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.196)					
@classCode	1..1	SHALL		<a href="#">86-22951</a>	2.16.840.1.113883.5.6 (HL7ActClass) = ENC
@moodCode	1..1	SHALL		<a href="#">86-22952</a>	2.16.840.1.113883.5.1001 (ActMood) = EVN
templateId	1..1	SHALL		<a href="#">86-22953</a>	
@root	1..1	SHALL		<a href="#">86-22954</a>	2.16.840.1.113883.10.20.5.6.196
participant	1..1	SHALL		<a href="#">86-22955</a>	
@typeCode	1..1	SHALL		<a href="#">86-22956</a>	2.16.840.1.113883.5.90 (HL7ParticipationType) = LOC
participantRole	1..1	SHALL		<a href="#">86-22957</a>	
@classCode	1..1	SHALL		<a href="#">86-22958</a>	2.16.840.1.113883.5.41 (EntityClass) = SDLOC
entryRelationship	1..*	SHALL		<a href="#">86-22962</a>	
@typeCode	1..1	SHALL		<a href="#">86-22963</a>	2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = COMP
observation	1..1	SHALL		<a href="#">86-22964</a>	<a href="#">Summary Data Observation (VAT) (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.195</a>

1. **SHALL** contain exactly one [1..1] **@classCode="ENC"** Encounter (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 **STATIC**) (CONF:86-22951).
2. **SHALL** contain exactly one [1..1] **@moodCode="EVN"** Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:86-22952).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:86-22953) such that it
  - a. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.5.6.196"** (CONF:86-22954).
4. **SHALL** contain exactly one [1..1] **participant** (CONF:86-22955) such that it
  - a. **SHALL** contain exactly one [1..1] **@typeCode="LOC"** Location (CodeSystem: HL7ParticipationType 2.16.840.1.113883.5.90 **STATIC**) (CONF:86-22956).
  - b. **SHALL** contain exactly one [1..1] **participantRole** (CONF:86-22957).
    - i. This participantRole **SHALL** contain exactly one [1..1] **@classCode="SDLOC"** Service Delivery Location (CodeSystem: EntityClass 2.16.840.1.113883.5.41 **STATIC**) (CONF:86-22958).
    - ii. 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:86-22959).

- iii. Or, if recording data from the whole facility, the participantRole element shall contain an id element with @root (CONF:86-22960).
  - iv. 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:86-22961).
5. **SHALL** contain at least one [1..\*] **entryRelationship** (CONF:86-22962).
- a. Such entryRelationships **SHALL** contain exactly one [1..1] **@typeCode="COMP"** Has component (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002 **STATIC**) (CONF:86-22963).
  - b. Such entryRelationships **SHALL** contain exactly one [1..1] Summary Data Observation (VAT) (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.195) (CONF:86-22964).

**Figure 146: 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">
      <!-- Summary Data Observation (VAT) template -->
      <templateId root="2.16.840.1.113883.10.20.5.6.195" />
      ...
    </observation>
  </entryRelationship>
  ...
</encounter>
```

### 3.105 Summary Encounter Patient Presence (AUP)

[encounter: identifier urn:oid:2.16.840.1.113883.10.20.5.6.197 (closed)]

**Table 355: Summary Encounter Patient Presence (AUP) Contexts**

Contained By:	Contains:
<a href="#">Summary Data Section (AUP)</a> (required)	<a href="#">Summary Data Observation</a>

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 356: Summary Encounter Patient Presence (AUP) Constraints Overview**

XPath	Card.	Verb	Data Type	CONF#	Value
encounter (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.197)					
@classCode	1..1	SHALL		<a href="#">86-22995</a>	2.16.840.1.113883.5.6 (HL7ActClass) = ENC
@moodCode	1..1	SHALL		<a href="#">86-22996</a>	2.16.840.1.113883.5.1001 (ActMood) = EVN
templateId	1..1	SHALL		<a href="#">86-22997</a>	
@root	1..1	SHALL		<a href="#">86-22998</a>	2.16.840.1.113883.10.20.5.6.197
participant	1..1	SHALL		<a href="#">86-22999</a>	
@typeCode	1..1	SHALL		<a href="#">86-23000</a>	2.16.840.1.113883.5.90 (HL7ParticipationType) = LOC
participantRole	1..1	SHALL		<a href="#">86-23001</a>	
@classCode	1..1	SHALL		<a href="#">86-23002</a>	2.16.840.1.113883.5.41 (EntityClass) = SDLOC
entryRelationship	1..*	SHALL		<a href="#">86-23006</a>	
@typeCode	1..1	SHALL		<a href="#">86-23007</a>	2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = COMP
observation	1..1	SHALL		<a href="#">86-23008</a>	<a href="#">Summary Data Observation (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.185)</a>

1. **SHALL** contain exactly one [1..1] @classCode="ENC" Encounter (CodeSystem: HL7ActClass 2.16.840.1.113883.5.6 **STATIC**) (CONF:86-22995).

2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:86-22996).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:86-22997) such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.5.6.197" (CONF:86-22998).
4. **SHALL** contain exactly one [1..1] **participant** (CONF:86-22999) such that it
  - a. **SHALL** contain exactly one [1..1] **@typeCode**="LOC" Location (CodeSystem: HL7ParticipationType 2.16.840.1.113883.5.90 **STATIC**) (CONF:86-23000).
  - b. **SHALL** contain exactly one [1..1] **participantRole** (CONF:86-23001).
    - i. This participantRole **SHALL** contain exactly one [1..1] **@classCode**="SDLOC" Service Delivery Location (CodeSystem: EntityClass 2.16.840.1.113883.5.41 **STATIC**) (CONF:86-23002).
    - ii. 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:86-23003).
    - iii. Or, if recording data from the whole facility, the participantRole element shall contain an id element with **@root** (CONF:86-23004).
    - iv. 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:86-23005).
5. **SHALL** contain at least one [1..\*] **entryRelationship** (CONF:86-23006).
  - a. Such entryRelationships **SHALL** contain exactly one [1..1] **@typeCode**="COMP" Has component (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002 **STATIC**) (CONF:86-23007).
  - b. Such entryRelationships **SHALL** contain exactly one [1..1] Summary Data Observation (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.185) (CONF:86-23008).
6. This Summary Encounter **SHALL** contain a Summary Data element that records Number of Patient-present Days for the reporting location (CONF:86-23011).
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:86-23012).

**Figure 147: Summary Encounter Patient Presence (AUP) Example**

```
<!-- encounter recording patient presence -->
<encounter classCode="ENC" moodCode="EVN">
  <!-- Summary Encounter Patient Presence (AUP) templateId -->
  <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">
      <!-- Summary Data Observation templateId -->
      <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>
```

### 3.106 Surgical Site Infection Observation

[observation: identifier urn:oid:2.16.840.1.113883.10.20.5.6.210 (closed)]

**Table 357: Surgical Site Infection Observation Contexts**

Contained By:	Contains:
<a href="#">Surgical Site Infection Details Section in an OPC Report</a> (required)	<a href="#">Criteria of Diagnosis Organizer</a> <a href="#">Infection Condition Observation</a>

This template represents a surgical site infection in an Outpatient Procedure Component Event Report. It records the date of the surgical site infection and contains entryRelationships to record the criteria of diagnosis and the infection condition being reported.

**Table 358: Surgical Site Infection Observation Constraints Overview**

XPath	Card.	Verb	Data Type	CONF#	Value
observation (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.210)					
@classCode	1..1	SHALL		<a href="#">1113-21703</a>	2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		<a href="#">1113-21704</a>	2.16.840.1.113883.5.1001 (ActMood) = EVN
templateId	1..1	SHALL		<a href="#">1113-21868</a>	
@root	1..1	SHALL		<a href="#">1113-21869</a>	2.16.840.1.113883.10.20.5.6.210
templateId	1..1	SHALL		<a href="#">1113-21967</a>	
@root	1..1	SHALL		<a href="#">1113-21713</a>	2.16.840.1.113883.10.20.22.4.4
id	1..1	SHALL		<a href="#">1113-21706</a>	
@nullFlavor	1..1	SHALL		<a href="#">1113-21717</a>	NA
code	1..1	SHALL		<a href="#">1113-21694</a>	
@code	1..1	SHALL		<a href="#">1113-21707</a>	ASSERTION
@codeSystem	1..1	SHALL		<a href="#">1113-21708</a>	2.16.840.1.113883.5.4 (ActCode) = 2.16.840.1.113883.5.4
statusCode	1..1	SHALL		<a href="#">1113-21695</a>	
@code	1..1	SHALL		<a href="#">1113-21709</a>	2.16.840.1.113883.5.14 (ActStatus) = completed
effectiveTime	1..1	SHALL		<a href="#">1113-21696</a>	
low	1..1	SHALL		<a href="#">1113-21710</a>	
value	1..1	SHALL	CD	<a href="#">1113-21711</a>	
@code	1..1	SHALL		<a href="#">1113-21718</a>	433202001
@codeSystem	1..1	SHALL		<a href="#">1113-21719</a>	2.16.840.1.113883.6.96 (SNOMED CT) = 2.16.840.1.113883.6.96
entryRelationship	1..1	SHALL		<a href="#">1113-21698</a>	
@typeCode	1..1	SHALL		<a href="#">1113-21714</a>	2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR
observation	1..1	SHALL		<a href="#">1113-21715</a>	<a href="#">Infection Condition Observation (identifier:</a>

					<a href="#">urn:oid:2.16.840.1.113883.10.20.5.6.135</a>
entryRelationship	1..1	SHALL	EntryRelationship	<a href="#">1113-21855</a>	
@typeCode	1..1	SHALL		<a href="#">1113-21856</a>	2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = SPRT
organizer	1..1	SHALL		<a href="#">1113-21857</a>	<a href="#">Criteria of Diagnosis Organizer (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.180)</a>

1. Conforms to Problem Observation template (identifier: urn: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:1113-21703).
3. **SHALL** contain exactly one [1..1] **@moodCode="EVN"** Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:1113-21704).
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:1113-21868) such that it
  - a. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.5.6.210"** (CONF:1113-21869).
5. **SHALL** contain exactly one [1..1] **templateId** (CONF:1113-21967) such that it
  - a. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.22.4.4"** (CONF:1113-21713).
6. **SHALL** contain exactly one [1..1] **id** (CONF:1113-21706).
  - a. This id **SHALL** contain exactly one [1..1] **@nullFlavor="NA"** (CONF:1113-21717).
7. **SHALL** contain exactly one [1..1] **code** (CONF:1113-21694).
  - a. This code **SHALL** contain exactly one [1..1] **@code="ASSERTION"** Assertion (CONF:1113-21707).
  - b. 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:1113-21708).
8. **SHALL** contain exactly one [1..1] **statusCode** (CONF:1113-21695).
  - a. This statusCode **SHALL** contain exactly one [1..1] **@code="completed"** Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14 **STATIC**) (CONF:1113-21709).
9. **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:1113-21696).
  - a. This effectiveTime **SHALL** contain exactly one [1..1] **low** (CONF:1113-21710).  
Note: Date of SSI
10. **SHALL** contain exactly one [1..1] **value** with **@xsi:type="CD"** (CONF:1113-21711).
  - a. This value **SHALL** contain exactly one [1..1] **@code="433202001"** Surgical Site Infection (CONF:1113-21718).
  - b. This value **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:1113-21719).
11. **SHALL** contain exactly one [1..1] **entryRelationship** (CONF:1113-21698) such that it

- a. **SHALL** contain exactly one [1..1] @typeCode="REFR" (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002) (CONF:1113-21714).
  - b. **SHALL** contain exactly one [1..1] Infection Condition Observation (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.135) (CONF:1113-21715).
12. **SHALL** contain exactly one [1..1] **entryRelationship** (CONF:1113-21855) such that it
- a. **SHALL** contain exactly one [1..1] @typeCode="SPRT" Supports (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002) (CONF:1113-21856).
  - b. **SHALL** contain exactly one [1..1] Criteria of Diagnosis Organizer (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.180) (CONF:1113-21857).

**Figure 148: Surgical Site Infection Observation Example**

```
<!-- Surgical Site Infection Observation -->
<observation classCode="OBS" moodCode="EVN">
  <!-- C-CDA Problem Observation templateId -->
  <templateId root="2.16.840.1.113883.10.20.22.4.4" />
  <!-- Surgical Site infection Observation templateId -->
  <templateId root="2.16.840.1.113883.10.20.5.6.210" />
  <id nullFlavor="NA" />
  <code codeSystem="2.16.840.1.113883.5.4" code="ASSERTION" />
  <statusCode code="completed" />
  <!-- Date of SSI -->
  <effectiveTime>
    <low value="20130806" />
  </effectiveTime>
  <value xsi:type="CD"
    codeSystem="2.16.840.1.113883.6.96"
    code="433202001"
    displayName="Surgical Site Infection" />
  <!-- NHSN Infection Condition-->
  <entryRelationship typeCode="REFR">
    <observation classCode="OBS" moodCode="EVN" negationInd="false">
      <!-- HAI Infection Condition Observation templateId -->
      <templateId root="2.16.840.1.113883.10.20.5.6.135" />
      ...
    </observation>
  </entryRelationship>
  <!-- Criteria of Diagnosis Organizer -->
  <entryRelationship typeCode="SPRT">
    <organizer classCode="CLUSTER" moodCode="EVN">
      <!-- Criteria of Diagnosis Organizer templateId -->
      <templateId root="2.16.840.1.113883.10.20.5.6.180" />
      ...
    </organizer>
  </entryRelationship>
</observation>
```



### 3.107 Suspected Source Observation

[observation: identifier urn:oid:2.16.840.1.113883.10.20.5.6.168 (closed)]

**Table 359: Suspected Source Observation Contexts**

Contained By:	Contains:
<a href="#">Positive Blood Culture Observation (V2)</a> (optional)	<a href="#">Imputability Observation</a>

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 360: Suspected Source Observation Constraints Overview**

XPath	Card.	Verb	Data Type	CONF#	Value
observation (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.168)					
@classCode	1..1	SHALL		<a href="#">86-21508</a>	2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		<a href="#">86-21509</a>	2.16.840.1.113883.5.1001 (ActMood) = EVN
@negationInd	1..1	SHALL		<a href="#">86-21510</a>	false
templateId	1..1	SHALL		<a href="#">86-28287</a>	
@root	1..1	SHALL		<a href="#">86-28288</a>	2.16.840.1.113883.10.20.22.4.4
templateId	1..1	SHALL		<a href="#">86-21528</a>	
@root	1..1	SHALL		<a href="#">86-21529</a>	2.16.840.1.113883.10.20.5.6.168
id	1..1	SHALL		<a href="#">86-21530</a>	
@nullFlavor	1..1	SHALL		<a href="#">86-22741</a>	NA
code	1..1	SHALL		<a href="#">86-21511</a>	2.16.840.1.113883.5.4 (ActCode) = ASSERTION
@code	1..1	SHALL		<a href="#">86-21512</a>	2.16.840.1.113883.5.4 (ActCode) = ASSERTION
statusCode	1..1	SHALL		<a href="#">86-21513</a>	
@code	1..1	SHALL		<a href="#">86-21514</a>	2.16.840.1.113883.5.14 (ActStatus) = completed
value	1..1	SHALL	CD	<a href="#">86-21515</a>	
entryRelationship	1..1	SHALL		<a href="#">86-21519</a>	
@typeCode	1..1	SHALL		<a href="#">86-21520</a>	2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = COMP
observation	1..1	SHALL		<a href="#">86-21521</a>	<a href="#">Imputability Observation (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.134)</a>
code	1..1	SHALL		<a href="#">86-21522</a>	
@code	1..1	SHALL	CD	<a href="#">86-21523</a>	2.16.840.1.113883.6.277 (cdcNHSN) = 2307-7
value	1..1	SHALL		<a href="#">86-21524</a>	

@code	1..1	SHALL	CD	<a href="#">86-21525</a>	2.16.840.1.113883.6.96 (SNOMED CT) = 60022001
-------	------	-------	----	--------------------------	--

1. Conforms to Problem Observation template (identifier: urn: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:86-21508).
3. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:86-21509).
4. **SHALL** contain exactly one [1..1] **@negationInd**="false" (CONF:86-21510).
5. **SHALL** contain exactly one [1..1] **templateId** (CONF:86-28287) such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.22.4.4" (CONF:86-28288).
6. **SHALL** contain exactly one [1..1] **templateId** (CONF:86-21528) such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.5.6.168" (CONF:86-21529).
7. **SHALL** contain exactly one [1..1] **id** (CONF:86-21530).
  - a. This id **SHALL** contain exactly one [1..1] **@nullFlavor**="NA" (CONF:86-22741).
8. **SHALL** contain exactly one [1..1] **code**="ASSERTION" Assertion (CodeSystem: ActCode 2.16.840.1.113883.5.4 **STATIC**) (CONF:86-21511).
  - a. This code **SHALL** contain exactly one [1..1] **@code**="ASSERTION" Assertion (CodeSystem: ActCode 2.16.840.1.113883.5.4 **STATIC**) (CONF:86-21512).
9. **SHALL** contain exactly one [1..1] **statusCode** (CONF:86-21513).
  - a. This statusCode **SHALL** contain exactly one [1..1] **@code**="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14 **STATIC**) (CONF:86-21514).
10. **SHALL** contain exactly one [1..1] **value** with **@xsi:type**="CD" (CONF:86-21515).
  - a. 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:86-21516).
  - b. 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:86-21517).
  - c. If the suspected source is uncertain, set the value of **@nullFlavor** to "NI" (CONF:86-21518).
11. **SHALL** contain exactly one [1..1] **entryRelationship** (CONF:86-21519) such that it
  - a. **SHALL** contain exactly one [1..1] **@typeCode**="COMP" Has component (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002 **STATIC**) (CONF:86-21520).
  - b. **SHALL** contain exactly one [1..1] [Imputability Observation](#) (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.134) (CONF:86-21521).
    - i. This observation **SHALL** contain exactly one [1..1] **code** (CONF:86-21522).
      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:86-21523).

- ii. This observation **SHALL** contain exactly one [1..1] **value** (CONF:86-21524).
  - 1. This value **SHALL** contain exactly one [1..1] **@code="60022001"**  
Possible (CodeSystem: SNOMED CT 2.16.840.1.113883.6.96  
**STATIC**) (CONF:86-21525).

**Table 361: 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 149: Suspected Source 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 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">
      <!-- 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>
  </entryRelationship>
</observation>
```

### 3.108 Transient Patient Observation

[observation: identifier urn:oid:2.16.840.1.113883.10.20.5.6.169 (closed)]

**Table 362: Transient Patient Observation Contexts**

Contained By:	Contains:
<a href="#">Dialysis Patient Observation</a> (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 363: Transient Patient Observation Constraints Overview**

XPath	Card.	Verb	Data Type	CONF#	Value
observation (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.169)					
@classCode	1..1	SHALL		<a href="#">86-21451</a>	2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		<a href="#">86-21452</a>	2.16.840.1.113883.5.1001 (ActMood) = EVN
@negationInd	1..1	SHALL		<a href="#">86-21453</a>	
templateId	1..1	SHALL		<a href="#">86-28289</a>	
@root	1..1	SHALL		<a href="#">86-28290</a>	2.16.840.1.113883.10.20.22.4.4
templateId	1..1	SHALL		<a href="#">86-22035</a>	
@root	1..1	SHALL		<a href="#">86-22036</a>	2.16.840.1.113883.10.20.5.6.169
id	1..1	SHALL		<a href="#">86-22737</a>	
@nullFlavor	1..1	SHALL		<a href="#">86-22738</a>	NA
code	1..1	SHALL		<a href="#">86-21454</a>	
@code	1..1	SHALL		<a href="#">86-21455</a>	2.16.840.1.113883.5.4 (ActCode) = ASSERTION
statusCode	1..1	SHALL		<a href="#">86-21456</a>	
@code	1..1	SHALL		<a href="#">86-21457</a>	2.16.840.1.113883.5.14 (ActStatus) = completed
value	1..1	SHALL	CD	<a href="#">86-21458</a>	
@code	1..1	SHALL		<a href="#">86-21459</a>	2.16.840.1.113883.6.277 (cdcNHSN) = 2304-4

1. Conforms to Problem Observation template (identifier: urn: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:86-21451).
3. **SHALL** contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:86-21452).
4. **SHALL** contain exactly one [1..1] @negationInd (CONF:86-21453).

5. **SHALL** contain exactly one [1..1] **templateId** (CONF:86-28289) such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.22.4.4" (CONF:86-28290).
6. **SHALL** contain exactly one [1..1] **templateId** (CONF:86-22035) such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.5.6.169" (CONF:86-22036).
7. **SHALL** contain exactly one [1..1] **id** (CONF:86-22737).
  - a. This id **SHALL** contain exactly one [1..1] **@nullFlavor**="NA" (CONF:86-22738).
8. **SHALL** contain exactly one [1..1] **code** (CONF:86-21454).
  - a. This code **SHALL** contain exactly one [1..1] **@code**="ASSERTION" Assertion (CodeSystem: ActCode 2.16.840.1.113883.5.4 **STATIC**) (CONF:86-21455).
9. **SHALL** contain exactly one [1..1] **statusCode** (CONF:86-21456).
  - a. This statusCode **SHALL** contain exactly one [1..1] **@code**="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14 **STATIC**) (CONF:86-21457).
10. **SHALL** contain exactly one [1..1] **value** with **@xsi:type**="CD" (CONF:86-21458).
  - a. This value **SHALL** contain exactly one [1..1] **@code**="2304-4" Transient Patient (CodeSystem: cdcNHSN 2.16.840.1.113883.6.277 **STATIC**) (CONF:86-21459).

**Figure 150: 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"/>
  <!-- HAI Transient Patient Observation templateId-->
  <templateId root="2.16.840.1.113883.10.20.5.6.169"/>
  <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="2304-4"
    displayName="Transient patient"/>
</observation>
```

### 3.109 Trauma Observation

[observation: identifier urn:oid:2.16.840.1.113883.10.20.5.6.170 (closed)]

**Table 364: Trauma Observation Contexts**

Contained By:	Contains:
<a href="#">Infection Risk Factors Section in a Procedure Report</a> (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 365: Trauma Observation Constraints Overview**

XPath	Card.	Verb	Data Type	CONF#	Value
observation (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.170)					
@classCode	1..1	SHALL		<a href="#">86-20922</a>	2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		<a href="#">86-20923</a>	2.16.840.1.113883.5.1001 (ActMood) = EVN
@negationInd	1..1	SHALL		<a href="#">86-20924</a>	
templateId	1..*	SHALL		<a href="#">86-28291</a>	
@root	1..1	SHALL		<a href="#">86-28292</a>	2.16.840.1.113883.10.20.22.4.4
templateId	1..*	SHALL		<a href="#">86-20927</a>	
@root	1..1	SHALL		<a href="#">86-20928</a>	2.16.840.1.113883.10.20.5.6.170
id	1..1	SHALL		<a href="#">86-20929</a>	
@nullFlavor	1..1	SHALL		<a href="#">86-22735</a>	NA
code	1..1	SHALL		<a href="#">86-20930</a>	
@code	1..1	SHALL	CS	<a href="#">86-20931</a>	2.16.840.1.113883.5.4 (ActCode) = ASSERTION
statusCode	1..1	SHALL		<a href="#">86-20932</a>	
@code	1..1	SHALL		<a href="#">86-20933</a>	2.16.840.1.113883.5.14 (ActStatus) = completed
value	1..1	SHALL	CD	<a href="#">86-20934</a>	
@code	1..1	SHALL		<a href="#">86-20936</a>	2.16.840.1.113883.6.96 (SNOMED CT) = 417746004

1. Conforms to Problem Observation template (identifier: urn: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:86-20922).
3. **SHALL** contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:86-20923).



4. **SHALL** contain exactly one [1..1] **@negationInd** (CONF:86-20924).
5. **SHALL** contain at least one [1..\*] **templateId** (CONF:86-28291) such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.22.4.4" (CONF:86-28292).
6. **SHALL** contain at least one [1..\*] **templateId** (CONF:86-20927) such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.5.6.170" (CONF:86-20928).
7. **SHALL** contain exactly one [1..1] **id** (CONF:86-20929).
  - a. This **id** **SHALL** contain exactly one [1..1] **@nullFlavor**="NA" (CONF:86-22735).
8. **SHALL** contain exactly one [1..1] **code** (CONF:86-20930).
  - a. This **code** **SHALL** contain exactly one [1..1] **@code**="ASSERTION" Assertion (CodeSystem: ActCode 2.16.840.1.113883.5.4 **STATIC**) (CONF:86-20931).
9. **SHALL** contain exactly one [1..1] **statusCode** (CONF:86-20932).
  - a. This **statusCode** **SHALL** contain exactly one [1..1] **@code**="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14 **STATIC**) (CONF:86-20933).
10. **SHALL** contain exactly one [1..1] **value** with **@xsi:type**="CD" (CONF:86-20934).
  - a. This **value** **SHALL** contain exactly one [1..1] **@code**="417746004" Trauma (CodeSystem: SNOMED CT 2.16.840.1.113883.6.96 **STATIC**) (CONF:86-20936).

**Figure 151: 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>
```

### 3.110 Urinary Catheter Observation

[observation: identifier urn:oid:2.16.840.1.113883.10.20.5.6.171 (closed)]

**Table 366: Urinary Catheter Observation Contexts**

Contained By:	Contains:
<a href="#">Infection Risk Factors Section in a UTI Report</a> (required)	<a href="#">Device Insertion Time and Location Procedure</a> <a href="#">History of Object Presence Observation</a>

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 367: Urinary Catheter Observation Constraints Overview**

<b>XPath</b>	<b>Card.</b>	<b>Verb</b>	<b>Data Type</b>	<b>CONF#</b>	<b>Value</b>
observation (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.171)					
@classCode	1..1	SHALL		<a href="#">86-21460</a>	2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		<a href="#">86-21461</a>	2.16.840.1.113883.5.1001 (ActMood) = EVN
@negationInd	1..1	SHALL		<a href="#">86-21462</a>	
templateId	1..1	SHALL		<a href="#">86-28293</a>	
@root	1..1	SHALL		<a href="#">86-28294</a>	2.16.840.1.113883.10.20.22.4.4
templateId	1..1	SHALL		<a href="#">86-22114</a>	
@root	1..1	SHALL		<a href="#">86-22117</a>	2.16.840.1.113883.10.20.5.6.171
id	1..1	SHALL		<a href="#">86-22115</a>	
@nullFlavor	1..1	SHALL		<a href="#">86-22727</a>	NA
code	1..1	SHALL		<a href="#">86-21463</a>	
@code	1..1	SHALL	CS	<a href="#">86-22116</a>	2.16.840.1.113883.5.4 (ActCode) = ASSERTION
statusCode	1..1	SHALL		<a href="#">86-21465</a>	
@code	1..1	SHALL		<a href="#">86-21466</a>	2.16.840.1.113883.5.14 (ActStatus) = completed
value	1..1	SHALL		<a href="#">86-21467</a>	
@code	1..1	SHALL	CD	<a href="#">86-21468</a>	2.16.840.1.113883.6.277 (cdcNHSN) = 3191-4
entryRelationship	0..*	MAY		<a href="#">86-21469</a>	
@typeCode	1..1	SHALL		<a href="#">86-21470</a>	2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR
@inversionInd	1..1	SHALL		<a href="#">86-21471</a>	true
procedure	1..1	SHALL		<a href="#">86-21472</a>	<a href="#">Device Insertion Time and Location Procedure (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.122)</a>
entryRelationship	0..1	MAY		<a href="#">86-22728</a>	
@typeCode	1..1	SHALL		<a href="#">86-</a>	2.16.840.1.113883.5.1002

				<a href="#">22729</a>	(HL7ActRelationshipType) = COMP
observation	1..1	SHALL		<a href="#">86-22730</a>	<a href="#">History of Object Presence Observation (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.132</a>

1. Conforms to Problem Observation template (identifier: urn: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:86-21460).
3. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:86-21461).
4. **SHALL** contain exactly one [1..1] **@negationInd** (CONF:86-21462).
5. **SHALL** contain exactly one [1..1] **templateId** (CONF:86-28293) such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.22.4.4" (CONF:86-28294).
6. **SHALL** contain exactly one [1..1] **templateId** (CONF:86-22114) such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.5.6.171" (CONF:86-22117).
7. **SHALL** contain exactly one [1..1] **id** (CONF:86-22115).
  - a. This id **SHALL** contain exactly one [1..1] **@nullFlavor**="NA" (CONF:86-22727).
8. **SHALL** contain exactly one [1..1] **code** (CONF:86-21463).
  - a. This code **SHALL** contain exactly one [1..1] **@code**="ASSERTION" Assertion (CodeSystem: ActCode 2.16.840.1.113883.5.4) (CONF:86-22116).
9. **SHALL** contain exactly one [1..1] **statusCode** (CONF:86-21465).
  - a. This statusCode **SHALL** contain exactly one [1..1] **@code**="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14 **STATIC**) (CONF:86-21466).
10. **SHALL** contain exactly one [1..1] **value** (CONF:86-21467).
  - a. 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:86-21468).
11. **MAY** contain zero or more [0..\*] **entryRelationship** (CONF:86-21469) such that it
  - a. **SHALL** contain exactly one [1..1] **@typeCode**="REFR" (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002 **STATIC**) (CONF:86-21470).
  - b. **SHALL** contain exactly one [1..1] **@inversionInd**="true" (CONF:86-21471).
  - c. **SHALL** contain exactly one [1..1] [Device Insertion Time and Location Procedure](#) (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.122) (CONF:86-21472).
12. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:86-22728) such that it
  - a. **SHALL** contain exactly one [1..1] **@typeCode**="COMP" (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002) (CONF:86-22729).
  - b. **SHALL** contain exactly one [1..1] [History of Object Presence Observation](#) (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.132) (CONF:86-22730).

- c. If a urinary catheter is not present (@negationInd="true"), this entryRelationship **SHALL** be present (CONF:86-22731).

**Figure 152: 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>
```

### 3.111 Vascular Access Type Observation

[observation: identifier urn:oid:2.16.840.1.113883.10.20.5.6.172 (closed)]

**Table 368: Vascular Access Type Observation Contexts**

Contained By:	Contains:
<a href="#">Risk Factors Section in an Evidence of Infection (Dialysis) Report</a> (required)	<a href="#">Buttonhole Cannulation Observation</a>

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 yyyy-mm.

**Table 369: Vascular Access Type Observation Constraints Overview**

XPath	Card.	Verb	Data Type	CONF#	Value
observation (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.172)					
@classCode	1..1	SHALL		<a href="#">86-21474</a>	2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		<a href="#">86-21475</a>	2.16.840.1.113883.5.1001 (ActMood) = EVN
@negationInd	1..1	SHALL		<a href="#">86-21476</a>	
templateId	1..1	SHALL		<a href="#">86-28295</a>	
@root	1..1	SHALL		<a href="#">86-28296</a>	2.16.840.1.113883.10.20.22.4.4
templateId	1..1	SHALL		<a href="#">86-22037</a>	
@root	1..1	SHALL		<a href="#">86-22038</a>	2.16.840.1.113883.10.20.5.6.172
id	1..1	SHALL		<a href="#">86-22721</a>	
@nullFlavor	1..1	SHALL		<a href="#">86-22722</a>	
code	1..1	SHALL		<a href="#">86-21477</a>	
@code	1..1	SHALL		<a href="#">86-21478</a>	2.16.840.1.113883.5.4 (ActCode) = ASSERTION
text	0..1	MAY		<a href="#">86-21479</a>	
statusCode	1..1	SHALL		<a href="#">86-21481</a>	
@code	1..1	SHALL		<a href="#">86-21482</a>	2.16.840.1.113883.5.14 (ActStatus) = completed
effectiveTime	1..1	SHALL		<a href="#">86-21483</a>	
low	1..1	SHALL		<a href="#">86-21484</a>	
value	1..1	SHALL		<a href="#">86-21487</a>	
entryRelationship	0..1	MAY		<a href="#">86-21490</a>	
@typeCode	1..1	SHALL		<a href="#">86-21491</a>	2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = COMP
observation	1..1	SHALL		<a href="#">86-21492</a>	<a href="#">Buttonhole Cannulation Observation (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.115)</a>

entryRelationship	0..1	MAY		<a href="#">86-22039</a>	
@typeCode	1..1	SHALL		<a href="#">86-22040</a>	2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = COMP
observation	1..1	SHALL		<a href="#">86-22041</a>	<a href="#">Buttonhole Cannulation Observation (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.115)</a>

1. Conforms to Problem Observation template (identifier: urn: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:86-21474).
3. **SHALL** contain exactly one [1..1] **@moodCode="EVN"** Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:86-21475).
4. **SHALL** contain exactly one [1..1] **@negationInd** (CONF:86-21476).
5. **SHALL** contain exactly one [1..1] **templateId** (CONF:86-28295) such that it
  - a. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.22.4.4"** (CONF:86-28296).
6. **SHALL** contain exactly one [1..1] **templateId** (CONF:86-22037) such that it
  - a. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.5.6.172"** (CONF:86-22038).
7. **SHALL** contain exactly one [1..1] **id** (CONF:86-22721).
  - a. This id **SHALL** contain exactly one [1..1] **@nullFlavor** (CONF:86-22722).
8. **SHALL** contain exactly one [1..1] **code** (CONF:86-21477).
  - a. This code **SHALL** contain exactly one [1..1] **@code="ASSERTION"** Assertion (CodeSystem: ActCode 2.16.840.1.113883.5.4 **STATIC**) (CONF:86-21478).
9. **MAY** contain zero or one [0..1] **text** (CONF:86-21479).
  - a. The text element is to be used for additional information commenting on the vascular access type (CONF:86-21480).
10. **SHALL** contain exactly one [1..1] **statusCode** (CONF:86-21481).
  - a. This statusCode **SHALL** contain exactly one [1..1] **@code="completed"** Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14 **STATIC**) (CONF:86-21482).
11. **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:86-21483).
  - a. This effectiveTime **SHALL** contain exactly one [1..1] **low** (CONF:86-21484).
    - i. When the access placement date is not known, the value of **@nullFlavor** **SHALL** be NI (no information) (CONF:86-21485).
    - ii. When the access placement date is known, it **SHALL** be recorded as year and month (yyyymm) (CONF:86-21486).
12. **SHALL** contain exactly one [1..1] **value** (CONF:86-21487).
  - a. 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:86-21488).

- b. To record that another type of vascular access is present, set the value of @nullFlavor to OTH (other) (CONF:86-21489).

13. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:86-21490) such that it

- a. **SHALL** contain exactly one [1..1] **@typeCode="COMP"** (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002 **STATIC**) (CONF:86-21491).
- b. **SHALL** contain exactly one [1..1] **Buttonhole Cannulation Observation** (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.115) (CONF:86-21492).

If the vascular access type is “Surgically constructed arteriovenous fistula” (SNOMED CT 438503005), this observation must contain an entryRelationship element such that it

14. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:86-22039).

- a. The entryRelationship, if present, **SHALL** contain exactly one [1..1] **@typeCode="COMP"** (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002) (CONF:86-22040).
- b. The entryRelationship, if present, **SHALL** contain exactly one [1..1] **Buttonhole Cannulation Observation** (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.115) (CONF:86-22041).

**Table 370: 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 153: 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>
```

### 3.112 Weight Observation

[observation: identifier urn:oid:2.16.840.1.113883.10.20.5.6.173 (closed)]

**Table 371: Weight Observation Contexts**

Contained By:	Contains:
<a href="#">Infection Risk Factors Section in a Procedure Report</a> (required)	

This observation records a body weight. NHSN protocol requires that the value be an integer.

**Table 372: Weight Observation Constraints Overview**

XPath	Card.	Verb	Data Type	CONF#	Value
observation (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.173)					
@classCode	1..1	SHALL		<a href="#">86-19702</a>	2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		<a href="#">86-19703</a>	2.16.840.1.113883.5.1001 (ActMood) = EVN
@negationInd	1..1	SHALL		<a href="#">86-19704</a>	false
templateId	1..1	SHALL		<a href="#">86-28297</a>	
@root	1..1	SHALL		<a href="#">86-28298</a>	2.16.840.1.113883.10.20.22.4.27
templateId	1..1	SHALL		<a href="#">86-19712</a>	
@root	1..1	SHALL		<a href="#">86-19714</a>	2.16.840.1.113883.10.20.5.6.173
id	1..1	SHALL		<a href="#">86-19897</a>	
@nullFlavor	1..1	SHALL		<a href="#">86-22718</a>	NA
code	1..1	SHALL		<a href="#">86-19705</a>	
@code	1..1	SHALL		<a href="#">86-19706</a>	2.16.840.1.113883.6.96 (SNOMED CT) = 27113001
statusCode	1..1	SHALL		<a href="#">86-19707</a>	
@code	1..1	SHALL		<a href="#">86-19708</a>	2.16.840.1.113883.5.14 (ActStatus) = completed
effectiveTime	1..1	SHALL		<a href="#">86-19898</a>	
@nullFlavor	1..1	SHALL		<a href="#">86-22719</a>	NA
value	1..1	SHALL	PQ	<a href="#">86-19709</a>	

1. Conforms to Vital Sign Observation template (identifier: urn: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:86-19702).
3. **SHALL** contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:86-19703).
4. **SHALL** contain exactly one [1..1] @negationInd="false" (CONF:86-19704).
5. **SHALL** contain exactly one [1..1] templateId (CONF:86-28297) such that it

- a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.22.4.27" (CONF:86-28298).
6. **SHALL** contain exactly one [1..1] **templateId** (CONF:86-19712) such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.5.6.173" (CONF:86-19714).
7. **SHALL** contain exactly one [1..1] **id** (CONF:86-19897).
  - a. This id **SHALL** contain exactly one [1..1] **@nullFlavor**="NA" (CONF:86-22718).
8. **SHALL** contain exactly one [1..1] **code** (CONF:86-19705).
  - a. This code **SHALL** contain exactly one [1..1] **@code**="27113001" Body weight (CodeSystem: SNOMED CT 2.16.840.1.113883.6.96 **STATIC**) (CONF:86-19706).
9. **SHALL** contain exactly one [1..1] **statusCode** (CONF:86-19707).
  - a. This statusCode **SHALL** contain exactly one [1..1] **@code**="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14 **STATIC**) (CONF:86-19708).
10. **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:86-19898).
  - a. This effectiveTime **SHALL** contain exactly one [1..1] **@nullFlavor**="NA" (CONF:86-22719).
11. **SHALL** contain exactly one [1..1] **value** with **@xsi:type**="PQ" (CONF:86-19709).
  - a. The value of value/@value **SHALL** be a non-negative real number representing the body weight (CONF:86-19710).

**Figure 154: 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>
```

### 3.113 Wound Class Observation

[observation: identifier urn:oid:2.16.840.1.113883.10.20.5.6.174 (closed)]

**Table 373: Wound Class Observation Contexts**

Contained By:	Contains:
<a href="#">Procedure Risk Factors Clinical Statement in a Procedure Report</a> (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 374: Wound Class Observation Constraints Overview**

XPath	Card.	Verb	Data Type	CONF#	Value
observation (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.174)					
@classCode	1..1	SHALL		<a href="#">86-19679</a>	2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		<a href="#">86-19680</a>	2.16.840.1.113883.5.1001 (ActMood) = EVN
templateId	1..1	SHALL		<a href="#">86-28299</a>	
@root	1..1	SHALL		<a href="#">86-28300</a>	2.16.840.1.113883.10.20.22.4.4
templateId	1..1	SHALL		<a href="#">86-19689</a>	
@root	1..1	SHALL		<a href="#">86-19690</a>	2.16.840.1.113883.10.20.5.6.174
id	1..1	SHALL		<a href="#">86-19691</a>	
@nullFlavor	1..1	SHALL		<a href="#">86-22717</a>	NA
code	1..1	SHALL		<a href="#">86-19681</a>	
@code	1..1	SHALL		<a href="#">86-19682</a>	2.16.840.1.113883.6.96 (SNOMED CT) = 420089007
statusCode	1..1	SHALL		<a href="#">86-19683</a>	
@code	1..1	SHALL		<a href="#">86-19684</a>	2.16.840.1.113883.5.14 (ActStatus) = completed
value	1..1	SHALL	CD	<a href="#">86-19685</a>	2.16.840.1.113883.13.9 (NHSNWoundClassCode)

1. Conforms to Problem Observation template (identifier: urn: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:86-19679).
3. **SHALL** contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: ActMood 2.16.840.1.113883.5.1001 **STATIC**) (CONF:86-19680).
4. **SHALL** contain exactly one [1..1] templateId (CONF:86-28299) such that it
  - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.10.20.22.4.4" (CONF:86-28300).
5. **SHALL** contain exactly one [1..1] templateId (CONF:86-19689) such that it

- a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.5.6.174" (CONF:86-19690).
6. **SHALL** contain exactly one [1..1] **id** (CONF:86-19691).
  - a. This **id** **SHALL** contain exactly one [1..1] **@nullFlavor**="NA" (CONF:86-22717).
7. **SHALL** contain exactly one [1..1] **code** (CONF:86-19681).
  - a. 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:86-19682).
8. **SHALL** contain exactly one [1..1] **statusCode** (CONF:86-19683).
  - a. This **statusCode** **SHALL** contain exactly one [1..1] **@code**="completed" Completed (CodeSystem: ActStatus 2.16.840.1.113883.5.14 **STATIC**) (CONF:86-19684).
9. **SHALL** contain exactly one [1..1] **value** with **@xsi:type**="CD", where the **code** **SHALL** be selected from ValueSet [NHSNWoundClassCode](#) 2.16.840.1.113883.13.9 **STATIC** 2008-01-30 (CONF:86-19685).

**Table 375: 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 155: 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>

```

## 4 TEMPLATE IDS IN THIS GUIDE

**Table 376: Template List**

Template Title	Template Type	templateId
<a href="#">Antimicrobial Resistance Option (ARO) Summary Report</a>	document	urn:oid:2.16.840.1.113883.10.20.5.46
<a href="#">Antimicrobial Use (AUP) Summary Report</a>	document	urn:oid:2.16.840.1.113883.10.20.5.44
<a href="#">HAI AUR Antimicrobial Resistance Option (ARO) Report (V2)</a>	document	urn:hl7ii:2.16.840.1.113883.10.20.5.31:2014-12-01
<a href="#">HAI Bloodstream Infection Report (BSI)</a>	document	urn:oid:2.16.840.1.113883.10.20.5.32
<a href="#">HAI Central-Line Insertion Practice Numerator Report (V2)</a>	document	urn:hl7ii:2.16.840.1.113883.10.20.5.36:2014-12-01
<a href="#">HAI Evidence of Infection (Dialysis) Report (V3)</a>	document	urn:hl7ii:2.16.840.1.113883.10.20.5.37:2014-12-01
<a href="#">HAI Laboratory-Identified Organism (LIO) Report (V2)</a>	document	urn:hl7ii:2.16.840.1.113883.10.20.5.38:2014-12-01
<a href="#">HAI Outpatient Procedure Component (OPC) Event Report</a>	document	urn:oid:2.16.840.1.113883.10.20.5.47
<a href="#">HAI Outpatient Procedure Component (OPC) Summary Report</a>	document	urn:oid:2.16.840.1.113883.10.20.5.48
<a href="#">HAI Population Summary Report Generic Constraints</a>	document	urn:oid:2.16.840.1.113883.10.20.5.4.28
<a href="#">HAI Procedure Denominator Report (V2)</a>	document	urn:oid:2.16.840.1.113883.10.20.5.35.2
<a href="#">HAI Single-Person Report Generic Constraints</a>	document	urn:oid:2.16.840.1.113883.10.20.5.4.27
<a href="#">HAI Surgical Site Infection Report (SSI) (V2)</a>	document	urn:oid:2.16.840.1.113883.10.20.5.33.2
<a href="#">HAI Urinary Tract Infection Numerator Report (UTI)</a>	document	urn:oid:2.16.840.1.113883.10.20.5.34
<a href="#">Healthcare Associated Infection Report</a>	document	urn:oid:2.16.840.1.113883.10.20.5.4.25
<a href="#">Intensive Care Unit (ICU) Summary Report (V2)</a>	document	urn:hl7ii:2.16.840.1.113883.10.20.5.40:2014-12-01
<a href="#">Neonatal Intensive Care Unit (NICU) Summary Report (V2)</a>	document	urn:hl7ii:2.16.840.1.113883.10.20.5.41:2014-12-01
<a href="#">Prevention Process and Outcome Measures (POM) Summary Report (V2)</a>	document	urn:hl7ii:2.16.840.1.113883.10.20.5.43:2014-12-01
<a href="#">Specialty Care Area (SCA) Summary Report (V2)</a>	document	urn:hl7ii:2.16.840.1.113883.10.20.5.42:2014-12-01
<a href="#">Vascular Access Type Report (VAT) Summary Report</a>	document	urn:oid:2.16.840.1.113883.10.20.5.45

Template Title	Template Type	templateId
<a href="#">Details Section in an Evidence of Infection (Dialysis) Report (V3)</a>	section	urn:hl7ii:2.16.840.1.113883.10.20.5.5.41:2014-12-01
<a href="#">Encounters Section in a LIO Report (V2)</a>	section	urn:hl7ii:2.16.840.1.113883.10.20.5.5.44:2014-12-01
<a href="#">Findings Section in a LIO Report (V2)</a>	section	urn:hl7ii:2.16.840.1.113883.10.20.5.5.46:2014-12-01
<a href="#">Findings Section in an ARO Report (V2)</a>	section	urn:hl7ii:2.16.840.1.113883.10.20.5.5.32:2014-12-01
<a href="#">Findings Section in an Infection-Type Report</a>	section	urn:oid:2.16.840.1.113883.10.20.5.5.45
<a href="#">Findings Section in an OPC Report</a>	section	urn:oid:2.16.840.1.113883.10.20.5.5.55
<a href="#">HAI Section Generic Constraints</a>	section	urn:oid:2.16.840.1.113883.10.20.5.4.26
<a href="#">Infection Details Section in a BSI Report</a>	section	urn:oid:2.16.840.1.113883.10.20.5.5.38
<a href="#">Infection Details Section in a UTI Report</a>	section	urn:oid:2.16.840.1.113883.10.20.5.5.40
<a href="#">Infection Details Section in an SSI Report (V2)</a>	section	urn:oid:2.16.840.1.113883.10.20.5.5.39.2
<a href="#">Infection Risk Factors Section in a BSI Report</a>	section	urn:oid:2.16.840.1.113883.10.20.5.5.33
<a href="#">Infection Risk Factors Section in a CLIP Report (V2)</a>	section	urn:hl7ii:2.16.840.1.113883.10.20.5.5.34:2014-12-01
<a href="#">Infection Risk Factors Section in a Procedure Report</a>	section	urn:oid:2.16.840.1.113883.10.20.5.5.35
<a href="#">Infection Risk Factors Section in a UTI Report</a>	section	urn:oid:2.16.840.1.113883.10.20.5.5.36
<a href="#">Other Event Details Section</a>	section	urn:oid:2.16.840.1.113883.10.20.5.5.54
<a href="#">Procedure Details Section in a CLIP Report</a>	section	urn:oid:2.16.840.1.113883.10.20.5.5.42
<a href="#">Procedure Details Section in a Procedure Report (V2)</a>	section	urn:oid:2.16.840.1.113883.10.20.5.5.43.2
<a href="#">Risk Factors Section in an Evidence of Infection (Dialysis) Report</a>	section	urn:oid:2.16.840.1.113883.10.20.5.5.37
<a href="#">Summary Data Section</a>	section	urn:oid:2.16.840.1.113883.10.20.5.5.47
<a href="#">Summary Data Section (ARO)</a>	section	urn:oid:2.16.840.1.113883.10.20.5.5.52
<a href="#">Summary Data Section (AUP)</a>	section	urn:oid:2.16.840.1.113883.10.20.5.5.51
<a href="#">Summary Data Section (NICU)</a>	section	urn:oid:2.16.840.1.113883.10.20.5.5.48
<a href="#">Summary Data Section (OPC)</a>	section	urn:oid:2.16.840.1.113883.10.20.5

Template Title	Template Type	templateId
		.5.56
<a href="#">Summary Data Section (POM) (V2)</a>	section	urn:hl7ii:2.16.840.1.113883.10.20.5.5.49:2014-12-01
<a href="#">Summary Data Section (VAT)</a>	section	urn:oid:2.16.840.1.113883.10.20.5.5.50
<a href="#">Surgical Site Infection Details Section in an OPC Report</a>	section	urn:oid:2.16.840.1.113883.10.20.5.5.53
<a href="#">Anesthesia Administration Clinical Statement</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.112
<a href="#">Antimicrobial Coated Catheter Used Observation</a>	entry	urn:hl7ii:2.16.840.1.113883.10.20.5.6.217:2014-12-01
<a href="#">Antimicrobial Susceptibility Antibiotic</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.176
<a href="#">Antimicrobial Susceptibility Final Interpretation Result</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.175
<a href="#">Antimicrobial Susceptibility Isolate Participant</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.202
<a href="#">Antimicrobial Susceptibility Result Observation (V2)</a>	entry	urn:hl7ii:2.16.840.1.113883.10.20.5.6.186:2014-12-01
<a href="#">Antimicrobial Susceptibility Result Organizer (V2)</a>	entry	urn:hl7ii:2.16.840.1.113883.10.20.5.6.200:2014-12-01
<a href="#">Antimicrobial Susceptibility Tests Organizer (V2)</a>	entry	urn:hl7ii:2.16.840.1.113883.10.20.5.6.177:2014-12-01
<a href="#">ARO Staph Aureus Specific Tests Organizer</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.190
<a href="#">ARO Staph Aureus Specific Tests Result Observation</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.189
<a href="#">ASA Class Observation</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.113
<a href="#">Bacterial Isolate Tested for Carbapenemase Observation</a>	entry	urn:hl7ii:2.16.840.1.113883.10.20.5.6.222:2014-12-01
<a href="#">Blood Collection Location</a>	entry	urn:hl7ii:2.16.840.1.113883.10.20.5.6.219:2014-12-01
<a href="#">Bloodstream Infection Evidence Type Observation</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.114
<a href="#">Buttonhole Cannulation Observation</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.115
<a href="#">Carbapenemase Test Observation</a>	entry	urn:hl7ii:2.16.840.1.113883.10.20.5.6.224:2014-12-01
<a href="#">Carbapenemase Test Organizer</a>	entry	urn:hl7ii:2.16.840.1.113883.10.20.5.6.223:2014-12-01
<a href="#">Carbapenemase Type Identified Observation</a>	entry	urn:hl7ii:2.16.840.1.113883.10.20.5.6.226:2014-12-01
<a href="#">Central-Line Insertion Practice Clinical Statement (V2)</a>	entry	urn:hl7ii:2.16.840.1.113883.10.20.5.6.116:2014-12-01
<a href="#">Central-Line Insertion Preparation</a>	entry	urn:hl7ii:2.16.840.1.113883.10.20.



Template Title	Template Type	templateId
<a href="#">Organizer (V2)</a>		5.6.179:2014-12-01
<a href="#">Closure Technique Procedure</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.117
<a href="#">Contraindicated Observation (V2)</a>	entry	urn:hl7ii:2.16.840.1.113883.10.20.5.6.118:2014-12-01
<a href="#">Contraindication Type Observation</a>	entry	urn:hl7ii:2.16.840.1.113883.10.20.5.6.216:2014-12-01
<a href="#">Criteria of Diagnosis Organizer</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.180
<a href="#">Criterion of Diagnosis Observation</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.119
<a href="#">Death Observation</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.120
<a href="#">Death Observation in an Evidence of Infection (Dialysis) Report</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.121
<a href="#">Device Insertion Time and Location Procedure</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.122
<a href="#">Diabetes Mellitus Observation</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.123
<a href="#">Dialysis Clinic Admission Clinical Statement</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.124
<a href="#">Dialysis Patient Observation</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.125
<a href="#">Drug-Susceptibility Test Observation</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.126
<a href="#">Duration of Labor Observation</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.127
<a href="#">Endoscope Used Clinical Statement</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.128
<a href="#">Findings Organizer</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.182
<a href="#">Guidewire Used Clinical Statement</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.129
<a href="#">Hand Hygiene Performed Clinical Statement</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.130
<a href="#">Height Observation</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.131
<a href="#">History of Object Presence Observation</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.132
<a href="#">Hospital Admission Clinical Statement</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.133
<a href="#">Imputability Observation</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.134
<a href="#">Infection Condition Observation</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.135
<a href="#">Infection Contributed to Death</a>	entry	urn:oid:2.16.840.1.113883.10.20.5

Template Title	Template Type	templateId
<a href="#">Observation</a>		.6.136
<a href="#">Infection First Reported Source Observation</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.207
<a href="#">Infection Indicator Organizer (V2)</a>	entry	urn:hl7ii:2.16.840.1.113883.10.20.5.6.181:2014-12-01
<a href="#">Infection Present at the Time of Surgery Observation</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.205
<a href="#">Infection Risk Factors Measurement Observation</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.137
<a href="#">Infection Risk Factors Observation</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.138
<a href="#">Infection-Type Observation</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.139
<a href="#">Isolate Susceptibility Tests Organizer (V2)</a>	entry	urn:hl7ii:2.16.840.1.113883.10.20.5.6.201:2014-12-01
<a href="#">IV Antibiotic Start Clinical Statement</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.140
<a href="#">IV Antifungal Start Clinical Statement</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.141
<a href="#">Last Physical Overnight Location Act</a>	entry	urn:hl7ii:2.16.840.1.113883.10.20.5.6.227:2014-12-01
<a href="#">Last Physical Overnight Location Encounter</a>	entry	urn:hl7ii:2.16.840.1.113883.10.20.5.6.220:2014-12-01
<a href="#">Loss of Vascular Access Observation</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.203
<a href="#">MDRO/CDI Observation</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.142
<a href="#">Occasion of HAI Detection Observation</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.144
<a href="#">Other Facility Discharge Act</a>	entry	urn:hl7ii:2.16.840.1.113883.10.20.5.6.228:2014-12-01
<a href="#">Other Facility Discharge Encounter</a>	entry	urn:hl7ii:2.16.840.1.113883.10.20.5.6.218:2014-12-01
<a href="#">Pathogen Identified Observation</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.145
<a href="#">Pathogen Identified Observation (LIO) (V2)</a>	entry	urn:hl7ii:2.16.840.1.113883.10.20.5.6.146:2014-12-01
<a href="#">Pathogen Ranking Observation</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.147
<a href="#">PICC/IV Team</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.148
<a href="#">Positive Blood Culture Observation (V2)</a>	entry	urn:hl7ii:2.16.840.1.113883.10.20.5.6.149:2014-12-01
<a href="#">Positive Test for Carbapenemase Observation</a>	entry	urn:hl7ii:2.16.840.1.113883.10.20.5.6.225:2014-12-01
<a href="#">Post-Procedure Observation</a>	entry	urn:oid:2.16.840.1.113883.10.20.5

Template Title	Template Type	templateId
		.6.150
<a href="#">Primary C. Difficile Testing Method This Quarter</a>	entry	urn:hl7ii:2.16.840.1.113883.10.20.5.6.221:2014-12-01
<a href="#">Prior Discharge Encounter (V2)</a>	entry	urn:hl7ii:2.16.840.1.113883.10.20.5.6.151:2014-12-01
<a href="#">Procedure Category</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.215
<a href="#">Procedure Details Clinical Statement in a CLIP Report</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.155
<a href="#">Procedure Details Clinical Statement in a Procedure Report (V2)</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.153.2
<a href="#">Procedure Details Clinical Statement in an Infection-Type Report</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.154
<a href="#">Procedure Risk Factors Clinical Statement in a Procedure Report</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.156
<a href="#">Prophylactic IV Antibiotic Timing Observation</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.209
<a href="#">Pus, Redness, or Increased Swelling Observation</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.157
<a href="#">Reason for Procedure Observation</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.158
<a href="#">Recorder Observation</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.159
<a href="#">Revision Associated with Prior Infection Observation</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.204
<a href="#">Same Day Outcome Measure Observation</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.208
<a href="#">Same Day Outcome Measures Organizer</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.212
<a href="#">Secondary Bloodstream Infection Observation</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.160
<a href="#">Significant Pathogens Observation</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.161
<a href="#">Skin Preparation Clinical Statement (V2)</a>	entry	urn:hl7ii:2.16.840.1.113883.10.20.5.6.162:2014-12-01
<a href="#">Skin-Preparation Solutions Applied Organizer (V2)</a>	entry	urn:hl7ii:2.16.840.1.113883.10.20.5.6.183:2014-12-01
<a href="#">Solutions Dried Observation</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.163
<a href="#">Specimen Collection Encounter (ARO)</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.187
<a href="#">Specimen Collection Encounter (LIO)</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.164
<a href="#">Specimen Collection Procedure</a>	entry	urn:hl7ii:2.16.840.1.113883.10.20.

Template Title	Template Type	templateId
<a href="#">[ARO] (V2)</a>		5.6.188:2014-12-01
<a href="#">Specimen Collection Procedure (LIO)</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.165
<a href="#">Spinal Fusion Level Observation</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.166
<a href="#">SSI Detected Using Toolkit Observation</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.206
<a href="#">Sterile Barriers Applied Clinical Statement</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.167
<a href="#">Summary Data Observation</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.185
<a href="#">Summary Data Observation (AUP)</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.194
<a href="#">Summary Data Observation (OPC)</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.214
<a href="#">Summary Data Observation (POM)</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.192
<a href="#">Summary Data Observation (VAT)</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.195
<a href="#">Summary Encounter</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.184
<a href="#">Summary Encounter (ARO)</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.199
<a href="#">Summary Encounter (AUP)</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.198
<a href="#">Summary Encounter (NICU)</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.191
<a href="#">Summary Encounter (OPC)</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.213
<a href="#">Summary Encounter (POM)</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.193
<a href="#">Summary Encounter (VAT)</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.196
<a href="#">Summary Encounter Patient Presence (AUP)</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.197
<a href="#">Surgical Site Infection Observation</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.210
<a href="#">Suspected Source Observation</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.168
<a href="#">Transient Patient Observation</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.169
<a href="#">Trauma Observation</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.170
<a href="#">Urinary Catheter Observation</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.171
<a href="#">Vascular Access Type Observation</a>	entry	urn:oid:2.16.840.1.113883.10.20.5

Template Title	Template Type	templateId
		.6.172
<a href="#">Weight Observation</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.173
<a href="#">Wound Class Observation</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.174

**Table 377: Template Containments**

<b>Template Title</b>	<b>Template Type</b>	<b>templateId</b>
<a href="#">Antimicrobial Resistance Option (ARO) Summary Report</a>	document	urn:oid:2.16.840.1.113883.10.20.5.46
<a href="#">Summary Data Section (ARO)</a>	section	urn:oid:2.16.840.1.113883.10.20.5.52
<a href="#">Summary Encounter (ARO)</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.199
<a href="#">Summary Data Observation</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.185
<a href="#">Antimicrobial Use (AUP) Summary Report</a>	document	urn:oid:2.16.840.1.113883.10.20.5.44
<a href="#">Summary Data Section (AUP)</a>	section	urn:oid:2.16.840.1.113883.10.20.5.51
<a href="#">Summary Encounter (AUP)</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.198
<a href="#">Summary Data Observation</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.185
<a href="#">Summary Data Observation (AUP)</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.194
<a href="#">Summary Encounter Patient Presence (AUP)</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.197
<a href="#">Summary Data Observation</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.185
<a href="#">HAI AUR Antimicrobial Resistance Option (ARO) Report (V2)</a>	document	urn:hl7ii:2.16.840.1.113883.10.20.5.31:2014-12-01
<a href="#">Findings Section in an ARO Report (V2)</a>	section	urn:hl7ii:2.16.840.1.113883.10.20.5.5.32:2014-12-01
<a href="#">Specimen Collection Procedure (ARO) (V2)</a>	entry	urn:hl7ii:2.16.840.1.113883.10.20.5.6.188:2014-12-01
<a href="#">Isolate Susceptibility Tests Organizer (V2)</a>	entry	urn:hl7ii:2.16.840.1.113883.10.20.5.6.201:2014-12-01
<a href="#">Antimicrobial Susceptibility Isolate Participant</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.202
<a href="#">Antimicrobial Susceptibility Tests Organizer (V2)</a>	entry	urn:hl7ii:2.16.840.1.113883.10.20.5.6.177:2014-12-01
<a href="#">Antimicrobial Susceptibility Final Interpretation Result</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.175
<a href="#">Antimicrobial Susceptibility Result Organizer (V2)</a>	entry	urn:hl7ii:2.16.840.1.113883.10.20.5.6.200:2014-12-01
<a href="#">Antimicrobial Susceptibility Result Observation (V2)</a>	entry	urn:hl7ii:2.16.840.1.113883.10.20.5.6.186:2014-12-01
<a href="#">ARO Staph Aureus Specific Tests Organizer</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.190

Template Title	Template Type	templateId
<a href="#">ARO Staph Aureus Specific Tests Result Observation</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.189
<a href="#">Specimen Collection Encounter (ARO)</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.187
<a href="#">HAI Bloodstream Infection Report (BSI)</a>	document	urn:oid:2.16.840.1.113883.10.20.5.32
<a href="#">Findings Section in an Infection-Type Report</a>	section	urn:oid:2.16.840.1.113883.10.20.5.5.45
<a href="#">Findings Organizer</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.182
<a href="#">Drug-Susceptibility Test Observation</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.126
<a href="#">Pathogen Identified Observation</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.145
<a href="#">Pathogen Ranking Observation</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.147
<a href="#">MDRO/CDI Observation</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.142
<a href="#">Pathogen Identified Observation</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.145
<a href="#">Infection Details Section in a BSI Report</a>	section	urn:oid:2.16.840.1.113883.10.20.5.5.38
<a href="#">Death Observation</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.120
<a href="#">Infection Contributed to Death Observation</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.136
<a href="#">Infection-Type Observation</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.139
<a href="#">Bloodstream Infection Evidence Type Observation</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.114
<a href="#">Criteria of Diagnosis Organizer</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.180
<a href="#">Criterion of Diagnosis Observation</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.119
<a href="#">Infection Condition Observation</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.135
<a href="#">Occasion of HAI Detection Observation</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.144
<a href="#">Secondary Bloodstream Infection Observation</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.160
<a href="#">Post-Procedure Observation</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.150
<a href="#">Procedure Details Clinical Statement in an Infection-Type Report</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.154
<a href="#">Infection Risk Factors Section in</a>	section	urn:oid:2.16.840.1.113883.10.20.5

Template Title	Template Type	templateId
<a href="#">a BSI Report</a>		.5.33
<a href="#">Infection Risk Factors Measurement Observation</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.137
<a href="#">Infection Risk Factors Observation</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.138
<a href="#">Device Insertion Time and Location Procedure</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.122
<a href="#">HAI Central-Line Insertion Practice Numerator Report (V2)</a>	document	urn:hl7ii:2.16.840.1.113883.10.20.5.36:2014-12-01
<a href="#">Infection Risk Factors Section in a CLIP Report (V2)</a>	section	urn:hl7ii:2.16.840.1.113883.10.20.5.5.34:2014-12-01
<a href="#">Antimicrobial Coated Catheter Used Observation</a>	entry	urn:hl7ii:2.16.840.1.113883.10.20.5.6.217:2014-12-01
<a href="#">Central-Line Insertion Practice Clinical Statement (V2)</a>	entry	urn:hl7ii:2.16.840.1.113883.10.20.5.6.116:2014-12-01
<a href="#">Central-Line Insertion Preparation Organizer (V2)</a>	entry	urn:hl7ii:2.16.840.1.113883.10.20.5.6.179:2014-12-01
<a href="#">Hand Hygiene Performed Clinical Statement</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.130
<a href="#">Skin-Preparation Solutions Applied Organizer (V2)</a>	entry	urn:hl7ii:2.16.840.1.113883.10.20.5.6.183:2014-12-01
<a href="#">Skin Preparation Clinical Statement (V2)</a>	entry	urn:hl7ii:2.16.840.1.113883.10.20.5.6.162:2014-12-01
<a href="#">Contraindicated Observation (V2)</a>	entry	urn:hl7ii:2.16.840.1.113883.10.20.5.6.118:2014-12-01
<a href="#">Contraindication Type Observation</a>	entry	urn:hl7ii:2.16.840.1.113883.10.20.5.6.216:2014-12-01
<a href="#">Sterile Barriers Applied Clinical Statement</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.167
<a href="#">Solutions Dried Observation</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.163
<a href="#">Procedure Details Section in a CLIP Report</a>	section	urn:oid:2.16.840.1.113883.10.20.5.5.42
<a href="#">Procedure Details Clinical Statement in a CLIP Report</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.155
<a href="#">PICC/IV Team</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.148
<a href="#">Reason for Procedure Observation</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.158
<a href="#">Guidewire Used Clinical Statement</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.129
<a href="#">Recorder Observation</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.159
<a href="#">HAI Evidence of Infection (Dialysis) Report (V3)</a>	document	urn:hl7ii:2.16.840.1.113883.10.20.5.37:2014-12-01
<a href="#">Details Section in an Evidence of</a>	section	urn:hl7ii:2.16.840.1.113883.10.20.



Template Title	Template Type	templateId
<a href="#">Infection (Dialysis) Report (V3)</a>		5.5.41:2014-12-01
<a href="#">Criteria of Diagnosis Organizer</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.180
<a href="#">Criterion of Diagnosis Observation</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.119
<a href="#">Death Observation in an Evidence of Infection (Dialysis) Report</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.121
<a href="#">Dialysis Clinic Admission Clinical Statement</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.124
<a href="#">Hospital Admission Clinical Statement</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.133
<a href="#">Infection Indicator Organizer (V2)</a>	entry	urn:hl7ii:2.16.840.1.113883.10.20.5.6.181:2014-12-01
<a href="#">IV Antibiotic Start Clinical Statement</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.140
<a href="#">IV Antifungal Start Clinical Statement</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.141
<a href="#">Positive Blood Culture Observation (V2)</a>	entry	urn:hl7ii:2.16.840.1.113883.10.20.5.6.149:2014-12-01
<a href="#">Blood Collection Location</a>	entry	urn:hl7ii:2.16.840.1.113883.10.20.5.6.219:2014-12-01
<a href="#">Suspected Source Observation</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.168
<a href="#">Imputability Observation</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.134
<a href="#">Pus, Redness, or Increased Swelling Observation</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.157
<a href="#">Loss of Vascular Access Observation</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.203
<a href="#">Findings Section in an Infection-Type Report</a>	section	urn:oid:2.16.840.1.113883.10.20.5.5.45
<a href="#">Findings Organizer</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.182
<a href="#">Drug-Susceptibility Test Observation</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.126
<a href="#">Pathogen Identified Observation</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.145
<a href="#">Pathogen Ranking Observation</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.147
<a href="#">MDRO/CDI Observation</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.142
<a href="#">Pathogen Identified Observation</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.145
<a href="#">Risk Factors Section in an Evidence of Infection (Dialysis)</a>	section	urn:oid:2.16.840.1.113883.10.20.5.5.37

Template Title	Template Type	templateId
<a href="#">Report</a>		
<a href="#">Dialysis Patient Observation</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.125
<a href="#">Transient Patient Observation</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.169
<a href="#">Vascular Access Type Observation</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.172
<a href="#">Buttonhole Cannulation Observation</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.115
<a href="#">HAI Laboratory-Identified Organism (LIO) Report (V2)</a>	document	urn:hl7ii:2.16.840.1.113883.10.20.5.38:2014-12-01
<a href="#">Encounters Section in a LIO Report (V2)</a>	section	urn:hl7ii:2.16.840.1.113883.10.20.5.5.44:2014-12-01
<a href="#">Last Physical Overnight Location Act</a>	entry	urn:hl7ii:2.16.840.1.113883.10.20.5.6.227:2014-12-01
<a href="#">Last Physical Overnight Location Encounter</a>	entry	urn:hl7ii:2.16.840.1.113883.10.20.5.6.220:2014-12-01
<a href="#">Other Facility Discharge Act</a>	entry	urn:hl7ii:2.16.840.1.113883.10.20.5.6.228:2014-12-01
<a href="#">Other Facility Discharge Encounter</a>	entry	urn:hl7ii:2.16.840.1.113883.10.20.5.6.218:2014-12-01
<a href="#">Prior Discharge Encounter (V2)</a>	entry	urn:hl7ii:2.16.840.1.113883.10.20.5.6.151:2014-12-01
<a href="#">Findings Section in a LIO Report (V2)</a>	section	urn:hl7ii:2.16.840.1.113883.10.20.5.5.46:2014-12-01
<a href="#">Pathogen Identified Observation (LIO) (V2)</a>	entry	urn:hl7ii:2.16.840.1.113883.10.20.5.6.146:2014-12-01
<a href="#">Bacterial Isolate Tested for Carbapenemase Observation</a>	entry	urn:hl7ii:2.16.840.1.113883.10.20.5.6.222:2014-12-01
<a href="#">Carbapenemase Test Organizer</a>	entry	urn:hl7ii:2.16.840.1.113883.10.20.5.6.223:2014-12-01
<a href="#">Carbapenemase Test Observation</a>	entry	urn:hl7ii:2.16.840.1.113883.10.20.5.6.224:2014-12-01
<a href="#">Positive Test for Carbapenemase Observation</a>	entry	urn:hl7ii:2.16.840.1.113883.10.20.5.6.225:2014-12-01
<a href="#">Carbapenemase Type Identified Observation</a>	entry	urn:hl7ii:2.16.840.1.113883.10.20.5.6.226:2014-12-01
<a href="#">Specimen Collection Procedure (LIO)</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.165
<a href="#">Specimen Collection Encounter (LIO)</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.164
<a href="#">HAI Outpatient Procedure Component (OPC) Event Report</a>	document	urn:oid:2.16.840.1.113883.10.20.5.47
<a href="#">Findings Section in an OPC Report</a>	section	urn:oid:2.16.840.1.113883.10.20.5.5.55
<a href="#">Findings Organizer</a>	entry	urn:oid:2.16.840.1.113883.10.20.5

Template Title	Template Type	templateId
		.6.182
<a href="#">Drug-Susceptibility Test Observation</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.126
<a href="#">Pathogen Identified Observation</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.145
<a href="#">Pathogen Ranking Observation</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.147
<a href="#">Pathogen Identified Observation</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.145
<a href="#">Other Event Details Section</a>	section	urn:oid:2.16.840.1.113883.10.20.5.5.54
<a href="#">Prophylactic IV Antibiotic Timing Observation</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.209
<a href="#">Same Day Outcome Measures Organizer</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.212
<a href="#">Same Day Outcome Measure Observation</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.208
<a href="#">Surgical Site Infection Details Section in an OPC Report</a>	section	urn:oid:2.16.840.1.113883.10.20.5.5.53
<a href="#">Infection First Reported Source Observation</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.207
<a href="#">Procedure Category</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.215
<a href="#">Surgical Site Infection Observation</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.210
<a href="#">Criteria of Diagnosis Organizer</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.180
<a href="#">Criterion of Diagnosis Observation</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.119
<a href="#">Infection Condition Observation</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.135
<a href="#">HAI Outpatient Procedure Component (OPC) Summary Report</a>	document	urn:oid:2.16.840.1.113883.10.20.5.48
<a href="#">Summary Data Section (OPC)</a>	section	urn:oid:2.16.840.1.113883.10.20.5.5.56
<a href="#">Summary Encounter (OPC)</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.213
<a href="#">Summary Data Observation (OPC)</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.214
<a href="#">Procedure Category</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.215
<a href="#">HAI Population Summary Report Generic Constraints</a>	document	urn:oid:2.16.840.1.113883.10.20.5.4.28
<a href="#">HAI Procedure Denominator Report (V2)</a>	document	urn:oid:2.16.840.1.113883.10.20.5.35.2
<a href="#">Infection Risk Factors Section in</a>	section	urn:oid:2.16.840.1.113883.10.20.5

Template Title	Template Type	templateId
<a href="#">a Procedure Report</a>		.5.35
<a href="#">ASA Class Observation</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.113
<a href="#">Diabetes Mellitus Observation</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.123
<a href="#">Duration of Labor Observation</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.127
<a href="#">Height Observation</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.131
<a href="#">Procedure Risk Factors Clinical Statement in a Procedure Report</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.156
<a href="#">Endoscope Used Clinical Statement</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.128
<a href="#">Wound Class Observation</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.174
<a href="#">Trauma Observation</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.170
<a href="#">Weight Observation</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.173
<a href="#">Procedure Details Section in a Procedure Report (V2)</a>	section	urn:oid:2.16.840.1.113883.10.20.5.5.43.2
<a href="#">Procedure Details Clinical Statement in a Procedure Report (V2)</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.153.2
<a href="#">Anesthesia Administration Clinical Statement</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.112
<a href="#">Closure Technique Procedure</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.117
<a href="#">Revision Associated with Prior Infection Observation</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.204
<a href="#">Spinal Fusion Level Observation</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.166
<a href="#">HAI Single-Person Report Generic Constraints</a>	document	urn:oid:2.16.840.1.113883.10.20.5.4.27
<a href="#">HAI Surgical Site Infection Report (SSI) (V2)</a>	document	urn:oid:2.16.840.1.113883.10.20.5.33.2
<a href="#">Findings Section in an Infection-Type Report</a>	section	urn:oid:2.16.840.1.113883.10.20.5.5.45
<a href="#">Findings Organizer</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.182
<a href="#">Drug-Susceptibility Test Observation</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.126
<a href="#">Pathogen Identified Observation</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.145
<a href="#">Pathogen Ranking</a>	entry	urn:oid:2.16.840.1.113883.10.20.5

Template Title	Template Type	templateId
<a href="#">Observation</a>		.6.147
<a href="#">MDRO/CDI Observation</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.142
<a href="#">Pathogen Identified Observation</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.145
<a href="#">Infection Details Section in an SSI Report (V2)</a>	section	urn:oid:2.16.840.1.113883.10.20.5.5.39.2
<a href="#">Death Observation</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.120
<a href="#">Infection Contributed to Death Observation</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.136
<a href="#">Infection Present at the Time of Surgery Observation</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.205
<a href="#">Infection-Type Observation</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.139
<a href="#">Bloodstream Infection Evidence Type Observation</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.114
<a href="#">Criteria of Diagnosis Organizer</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.180
<a href="#">Criterion of Diagnosis Observation</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.119
<a href="#">Infection Condition Observation</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.135
<a href="#">Occasion of HAI Detection Observation</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.144
<a href="#">Secondary Bloodstream Infection Observation</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.160
<a href="#">Procedure Details Clinical Statement in an Infection-Type Report</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.154
<a href="#">SSI Detected Using Toolkit Observation</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.206
<a href="#">HAI Urinary Tract Infection Numerator Report (UTI)</a>	document	urn:oid:2.16.840.1.113883.10.20.5.34
<a href="#">Findings Section in an Infection-Type Report</a>	section	urn:oid:2.16.840.1.113883.10.20.5.5.45
<a href="#">Findings Organizer</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.182
<a href="#">Drug-Susceptibility Test Observation</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.126
<a href="#">Pathogen Identified Observation</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.145
<a href="#">Pathogen Ranking Observation</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.147
<a href="#">MDRO/CDI Observation</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.142

Template Title	Template Type	templateId
<a href="#">Pathogen Identified Observation</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.145
<a href="#">Infection Details Section in a UTI Report</a>	section	urn:oid:2.16.840.1.113883.10.20.5.5.40
<a href="#">Death Observation</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.120
<a href="#">Infection Contributed to Death Observation</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.136
<a href="#">Infection-Type Observation</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.139
<a href="#">Bloodstream Infection Evidence Type Observation</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.114
<a href="#">Criteria of Diagnosis Organizer</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.180
<a href="#">Criterion of Diagnosis Observation</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.119
<a href="#">Infection Condition Observation</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.135
<a href="#">Occasion of HAI Detection Observation</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.144
<a href="#">Secondary Bloodstream Infection Observation</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.160
<a href="#">Post-Procedure Observation</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.150
<a href="#">Procedure Details Clinical Statement in an Infection-Type Report</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.154
<a href="#">Infection Risk Factors Section in a UTI Report</a>	section	urn:oid:2.16.840.1.113883.10.20.5.5.36
<a href="#">Urinary Catheter Observation</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.171
<a href="#">Device Insertion Time and Location Procedure</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.122
<a href="#">History of Object Presence Observation</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.132
<a href="#">Healthcare Associated Infection Report</a>	document	urn:oid:2.16.840.1.113883.10.20.5.4.25
<a href="#">Intensive Care Unit (ICU) Summary Report (V2)</a>	document	urn:hl7ii:2.16.840.1.113883.10.20.5.40:2014-12-01
<a href="#">Summary Data Section</a>	section	urn:oid:2.16.840.1.113883.10.20.5.5.47
<a href="#">Summary Encounter</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.184
<a href="#">Summary Data Observation</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.185
<a href="#">Neonatal Intensive Care Unit</a>	document	urn:hl7ii:2.16.840.1.113883.10.20.

Template Title	Template Type	templateId
<a href="#">(NICU) Summary Report (V2)</a>		5.41:2014-12-01
<a href="#">Summary Data Section (NICU)</a>	section	urn:oid:2.16.840.1.113883.10.20.5.5.48
<a href="#">Summary Encounter (NICU)</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.191
<a href="#">Summary Data Observation</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.185
<a href="#">Prevention Process and Outcome Measures (POM) Summary Report (V2)</a>	document	urn:hl7ii:2.16.840.1.113883.10.20.5.43:2014-12-01
<a href="#">Summary Data Section (POM) (V2)</a>	section	urn:hl7ii:2.16.840.1.113883.10.20.5.5.49:2014-12-01
<a href="#">Primary C. Difficile Testing Method This Quarter</a>	entry	urn:hl7ii:2.16.840.1.113883.10.20.5.6.221:2014-12-01
<a href="#">Summary Encounter (POM)</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.193
<a href="#">Summary Data Observation (POM)</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.192
<a href="#">Summary Data Observation</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.185
<a href="#">Specialty Care Area (SCA) Summary Report (V2)</a>	document	urn:hl7ii:2.16.840.1.113883.10.20.5.42:2014-12-01
<a href="#">Summary Data Section</a>	section	urn:oid:2.16.840.1.113883.10.20.5.5.47
<a href="#">Summary Encounter</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.184
<a href="#">Summary Data Observation</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.185
<a href="#">Vascular Access Type Report (VAT) Summary Report</a>	document	urn:oid:2.16.840.1.113883.10.20.5.45
<a href="#">Summary Data Section (VAT)</a>	section	urn:oid:2.16.840.1.113883.10.20.5.5.50
<a href="#">Summary Encounter (VAT)</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.196
<a href="#">Summary Data Observation (VAT)</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.195
<a href="#">Summary Data Observation</a>	entry	urn:oid:2.16.840.1.113883.10.20.5.6.185
<a href="#">HAI Section Generic Constraints</a>	section	urn:oid:2.16.840.1.113883.10.20.5.4.26



## 5 VALUE SETS IN THIS GUIDE

**Table 378: Value Sets**

Name	OID	URL
<a href="#">Administrative Gender (HL7 V3)</a>	2.16.840.1.113883.1.11.1	<a href="http://www.hl7.org">http://www.hl7.org</a>
<a href="#">Codes for Antimicrobial Resistance Option (ARO) Summary Data</a>	AROSummaryData	N/A
<a href="#">Codes for Antimicrobial Usage, Pharmacy (AUP) Summary Data</a>	AUPSummaryData	N/A
<a href="#">Codes for Intensive Care Unit (ICU) Summary Data</a>	ICUSummaryData	N/A
<a href="#">Codes for Neonatal Intensive Care Unit (NICU) Summary Data</a>	NICUSummaryData	N/A
<a href="#">Codes for Outpatient Procedure Component (OPC) Summary</a>	OPCSummaryData	N/A
<a href="#">Codes for Prevention Process and Outcome Measures (POM) Summary Data</a>	POMSummaryData	N/A
<a href="#">Codes for Specialty Care Area (SCA) Summary Data</a>	SCASummaryData	N/A
<a href="#">Codes for Vascular Access Type (Dialysis) Summary Data</a>	VATDialysisSummaryData	N/A
<a href="#">EthnicityGroup</a>	2.16.840.1.114222.4.11.837	<a href="http://phinvads.cdc.gov/vads/ViewValueSet.action?pid=35D34BBC-617F-DD11-B38D-00188B398520">http://phinvads.cdc.gov/vads/ViewValueSet.action?pid=35D34BBC-617F-DD11-B38D-00188B398520</a>
<a href="#">NHSNAntimicrobialAgentAURPCode</a>	2.16.840.1.114222.4.11.3360	<a href="http://phinvads.cdc.gov">http://phinvads.cdc.gov</a>
<a href="#">NHSNArDrugSuscTestsCode</a>	2.16.840.1.114222.4.11.7230	<a href="https://www.phinvads.com">https://www.phinvads.com</a>
<a href="#">NHSNASAClassCode</a>	2.16.840.1.113883.13.10	N/A
<a href="#">NHSNBloodCollectionLocation</a>	2.16.840.1.114222.4.11.7237	<a href="http://www.phinvads.com">http://www.phinvads.com</a>
<a href="#">NHSNBloodStreamInfectionEvidenceTypeCode</a>	2.16.840.1.113883.13.7	N/A
<a href="#">NHSNCarbaDetectType</a>	2.16.840.1.114222.4.11.7241	<a href="http://www.phinvads.com">http://www.phinvads.com</a>
<a href="#">NHSNCarbaTestMethod</a>	2.16.840.1.114222.4.11.7240	<a href="http://www.phinvads.com">http://www.phinvads.com</a>
<a href="#">NHSNCatheterTypeCode</a>	2.16.840.1.114222.4.11.3185	N/A
<a href="#">NHSNCdiffTestMethod</a>	2.16.840.1.114222.4.11.7242	<a href="http://www.phinvads.com">http://www.phinvads.com</a>
<a href="#">NHSNClosureTechniqueCode</a>	2.16.840.1.114222.4.11.6051	N/A
<a href="#">NHSNContraindicationType</a>	2.16.840.1.114222.4.11.7239	N/A
<a href="#">NHSNCriterionOfDiagnosisCode</a>	2.16.840.1.114222.4.11.3195	N/A
<a href="#">NHSNDrugSusceptibilityFindingCode</a>	2.16.840.1.113883.13.13	N/A
<a href="#">NHSNDrugSusceptibilityTestsCode</a>	2.16.840.1.113883.13.15	N/A
<a href="#">NHSNEligibilityCode</a>	2.16.840.1.114222.4.11.3248	N/A



Name	OID	URL
<a href="#">NHSNEncounterTypeCode</a>	2.16.840.1.113883.13.1	N/A
<a href="#">NHSNHealthcareServiceLocationCode</a>	2.16.840.1.113883.13.19	N/A
<a href="#">NHSNHipReplacementCode</a>	2.16.840.1.113883.13.3	N/A
<a href="#">NHSNInfectionConditionCode</a>	2.16.840.1.114222.4.11.3196	N/A
<a href="#">NHSNInfectionFirstReportedSource</a>	2.16.840.1.114222.4.11.7215	N/A
<a href="#">NHSNInfectionRiskFactorsCode</a>	2.16.840.1.113883.13.6	N/A
<a href="#">NHSNInfectionTypeCode</a>	2.16.840.1.113883.13.20	N/A
<a href="#">NHSNInsertionSiteCode</a>	2.16.840.1.114222.4.11.3180	N/A
<a href="#">NHSNKneeReplacementCode</a>	2.16.840.1.113883.13.4	N/A
<a href="#">NHSNLastLocationEncounterTypeCode</a>	2.16.840.1.113883.10.20.5.9.2	N/A
<a href="#">NHSNOccasionOfDetectionCode</a>	2.16.840.1.113883.13.12	N/A
<a href="#">NHSNOrganismASTCode</a>	2.16.840.1.114222.4.11.3283	N/A
<a href="#">NHSNPathogenCode</a>	2.16.840.1.113883.13.16	N/A
<a href="#">NHSNPopulationCategoryCode</a>	2.16.840.1.114222.4.11.3234	N/A
<a href="#">NHSNPopulationSummaryReportTypeCode</a>	2.16.840.1.114222.4.11.3595	N/A
<a href="#">NHSNPreviousFacility</a>	2.16.840.1.114222.4.11.7238	N/A
<a href="#">NHSNPreviousPatientLocation</a>	2.16.840.1.114222.4.11.7233	N/A
<a href="#">NHSNProcedureCategoryCode</a>	2.16.840.1.113883.13.17	N/A
<a href="#">NHSNRaceCategory</a>	2.16.840.1.114222.4.11.7232	<a href="https://phinvads.cdc.gov">https://phinvads.cdc.gov</a>
<a href="#">NHSNReasonForInsertionCode</a>	2.16.840.1.114222.4.11.3182	N/A
<a href="#">NHSNRoleOfPerformerCode</a>	2.16.840.1.114222.4.11.3181	N/A
<a href="#">NHSNRouteOfAdministrationAURPCode</a>	2.16.840.1.114222.4.11.3361	N/A
<a href="#">NHSNSameDayOutcomeMeasure</a>	2.16.840.1.114222.4.11.7214	N/A
<a href="#">NHSNSignificantPathogenCode</a>	2.16.840.1.114222.4.11.3194	N/A
<a href="#">NHSNSkinPreparationCode</a>	2.16.840.1.114222.4.11.3183	N/A
<a href="#">NHSNSpecimenTypeCode</a>	2.16.840.1.114222.4.11.3249	N/A
<a href="#">NHSNSpinalFusionApproachCode</a>	2.16.840.1.113883.13.2	N/A
<a href="#">NHSNSpinalFusionLevelCode</a>	2.16.840.1.113883.13.11	N/A
<a href="#">NHSNStaphAureusSpecificTest</a>	2.16.840.1.114222.4.11.7160	N/A
<a href="#">NHSNSterileBarrierCode</a>	2.16.840.1.114222.4.11.3184	N/A
<a href="#">NHSNSuspectedSourceTypeCode</a>	2.16.840.1.114222.4.11.6008	N/A
<a href="#">NHSNTimingCode</a>	2.16.840.1.114222.4.11.3247	N/A
<a href="#">NHSNVascularAccessSiteCode</a>	2.16.840.1.114222.4.11.6042	N/A
<a href="#">NHSNVascularAccessTypeCode</a>	2.16.840.1.114222.4.11.6007	N/A
<a href="#">NHSNWoundClassCode</a>	2.16.840.1.113883.13.9	N/A
<a href="#">NullValues_UNK_NA</a>	2.16.840.1.113883.10.20.5.9.2	N/A

Name	OID	URL
<a href="#">NullValues_UNK_OTH</a>	2.16.840.1.113883.10.20.5.9.1	N/A
<a href="#">ProcedureAct_statusCode</a>	2.16.840.1.113883.11.20.9.22	<a href="http://www.hl7.org">http://www.hl7.org</a>

## 6 CODE SYSTEMS IN THIS GUIDE

**Table 379: Code Systems**

<b>Name</b>	<b>OID</b>
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
CPT4	2.16.840.1.113883.6.12
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

## 7 CHANGES FROM PREVIOUS VERSION

### 7.1 HAI AUR Antimicrobial Resistance Option (ARO) Report (V2)

HAI AUR Antimicrobial Resistance Option (ARO) Report (V2)

(urn:hl7ii:2.16.840.1.113883.10.20.5.31:2014-12-01)

Change	Old	New
Name	HAI AUR Antimicrobial Resistance Option (ARO) Report	HAI AUR Antimicrobial Resistance Option (ARO) Report (V2)
Oid	urn:oid:2.16.840.1.113883.10.20.5.31	urn:hl7ii:2.16.840.1.113883.10.20.5.31:2014-12-01
CONF #: 1129-30540 Added		SHALL contain exactly one [1..1] templateId (CONF:1129-30540) such that it
CONF #: 1129-30541 Added		SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.7.2.2.1" (CONF:1129-30541).
CONF #: 1129-30542 Added		SHALL contain exactly one [1..1] @extension="2014-12-01" (CONF:1129-30542).
CONF #: 86-28305 Removed	This template id represents the IG in which this template is published. SHALL contain exactly one [1..1] templateId (CONF:86-28305) such that it	
CONF #: 86-28306 Removed	SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.7.1" (CONF:86-28306).	
CONF #: 1129-21153 Modified	SHALL contain exactly one [1..1] Findings Section in an ARO Report (identifier: urn:oid:2.16.840.1.113883.10.20.5.5.32)	SHALL contain exactly one [1..1] Findings Section in an ARO Report (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.5.5.32:2014-12-01)

## 7.2 HAI Central-Line Insertion Practice Numerator Report (V2)

### HAI Central-Line Insertion Practice Numerator Report (V2)

(urn:hl7ii:2.16.840.1.113883.10.20.5.36:2014-12-01)

Change	Old	New
Name	HAI Central-Line Insertion Practice Numerator Report	HAI Central-Line Insertion Practice Numerator Report (V2)
Oid	urn:oid:2.16.840.1.113883.10.20.5.36	urn:hl7ii:2.16.840.1.113883.10.20.5.36:2014-12-01
CONF #: 1129-30543 Added		This template id represents the IG in which this template is published. SHALL contain exactly one [1..1] templateId (CONF:1129-30543) such that it
CONF #: 1129-30424 Added		SHALL contain exactly one [1..1] Infection Risk Factors Section in a CLIP Report (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.5.5.34:2014-12-01) (CONF:1129-30424).
CONF #: 1129-30544 Added		SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.7.2.2.1" (CONF:1129-30544).
CONF #: 1129-30284 Added		SHALL contain exactly one [1..1] @extension="2014-12-01" (CONF:1129-30284).
CONF #: 86-28309 Removed	This template id represents the IG in which this template is published. SHALL contain exactly one [1..1] templateId (CONF:86-28309) such that it	
CONF #: 86-28310 Removed	SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.7.1" (CONF:86-28310).	
CONF #: 86-22570 Removed	SHALL contain exactly one [1..1] Infection Risk Factors Section in a CLIP Report (identifier: urn:oid:2.16.840.1.113883.10.20.5.5.34) (CONF:86-22570).	

### 7.3 HAI Evidence of Infection (Dialysis) Report (V3)

#### HAI Evidence of Infection (Dialysis) Report (V3)

(urn:hl7ii:2.16.840.1.113883.10.20.5.37:2014-12-01)

Change	Old	New
Name	HAI Evidence of Infection (Dialysis) Report (V2)	HAI Evidence of Infection (Dialysis) Report (V3)
Oid	urn:oid:2.16.840.1.113883.10.20.5.37.2	urn:hl7ii:2.16.840.1.113883.10.20.5.37:2014-12-01
Description	<p>Note: The section on “Template Ids in this Guide” includes a containment table showing all the entries within each report type.</p> <p>The report records evidence of infection in a chronic hemodialysis patient.</p> <p>Preferred document title: “Evidence of Infection, Dialysis Report (EOID)”</p> <p>Key encounter data:</p> <ul style="list-style-type: none"> <li>• Encounter type is recorded as outpatient (AMB).</li> <li>• Admission date is recorded as nullFlavor NA (Not applicable).</li> <li>• Facility id, unit identifier, and unit type are required.</li> </ul> <p>Other dates and locations: None</p>	<p>Note: The section on “Template Ids in this Guide” includes a containment table showing all the entries within each report type.</p> <p>The report records evidence of infection in a chronic hemodialysis patient.</p> <p>Preferred document title: “Evidence of Infection, Dialysis Report (EOID)”</p> <p>Key encounter data:</p> <ul style="list-style-type: none"> <li>• Encounter type is recorded as outpatient (AMB).</li> <li>• Admission date is recorded as nullFlavor NA (not applicable).</li> <li>• Facility id, unit identifier, and unit type are required.</li> </ul> <p>Other dates and locations: None</p>
CONF #: 1129-30545 Added		SHALL contain exactly one [1..1] templateId (CONF:1129-30545) such that it
CONF #: 1129-30546 Added		SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.7.2.2.1" (CONF:1129-30546).
CONF #: 1129-30254 Added		SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.37" (CONF:1129-30254).
CONF #: 1129-30285 Added		SHALL contain exactly one [1..1] @extension="2014-12-01" (CONF:1129-30285).
CONF #: 1101-30307 Removed	<p>This template id represents the IG in which this template is published.</p> <p>SHALL contain exactly one [1..1] templateId (CONF:1101-30307) such that it</p>	

Change	Old	New
CONF #: 1101-30308 Removed	SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.7.2.1.1" (CONF:1101-30308).	
CONF #: 1101-30252 Removed	SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.37.2" (CONF:1101-30252).	
CONF #: 1129-30253 Modified	SHALL contain exactly one [1..1] Details Section in an Evidence of Infection (Dialysis) Report (V2) (identifier: urn:oid:2.16.840.1.113883.10.20.5.5.41.2)	SHALL contain exactly one [1..1] Details Section in an Evidence of Infection (Dialysis) Report (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.5.5.41:2014-12-01)

## 7.4 HAI Laboratory-Identified Organism (LIO) Report (V2)

HAI Laboratory-Identified Organism (LIO) Report (V2)

(urn:hl7ii:2.16.840.1.113883.10.20.5.38:2014-12-01)

Change	Old	New
Name	HAI Laboratory-Identified Organism (LIO) Report	HAI Laboratory-Identified Organism (LIO) Report (V2)
Oid	urn:oid:2.16.840.1.113883.10.20.5.38	urn:hl7ii:2.16.840.1.113883.10.20.5.38:2014-12-01
CONF #: 1129-30547 Added		This template id represents the IG in which this template is published. SHALL contain exactly one [1..1] templateId (CONF:1129-30547) such that it
CONF #: 1129-30420 Added		SHALL contain exactly one [1..1] Findings Section in a LIO Report (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.5.5.46:2014-12-01) (CONF:1129-30420).
CONF #: 1129-30548 Added		SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.7.2.2.1" (CONF:1129-30548).
CONF #: 1129-30421 Added		SHALL contain exactly one [1..1] Encounters Section in a LIO Report (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.5.5.44:2014-12-01) (CONF:1129-30421).
CONF #: 1129-30286 Added		SHALL contain exactly one [1..1] @extension="2014-12-01" (CONF:1129-30286).
CONF #: 86-28313 Removed	This template id represents the IG in which this template is published. SHALL contain exactly one [1..1] templateId (CONF:86-28313) such that it	
CONF #: 86-28314 Removed	SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.7.1" (CONF:86-28314).	
CONF #: 86-22613 Removed	SHALL contain exactly one [1..1] Findings Section in a LIO Report (identifier: urn:oid:2.16.840.1.113883.10.20.5.5.46) (CONF:86-22613).	
CONF #: 86-22615 Removed	When the patient was discharged from this facility within the prior three months, a component element containing an Encounters	



Change	Old	New
	Section in a LIO Report SHALL be present (CONF:86-22615).	
CONF #: 86-23307 Removed	SHALL contain exactly one [1..1] Encounters Section in a LIO Report (identifier: urn:oid:2.16.840.1.113883.10.20.5.5.44) (CONF:86-23307).	
CONF #: 1129-22614 Modified	This structuredBody MAY contain exactly one [1..1] component	This structuredBody SHALL contain exactly one [1..1] component

## 7.5 Intensive Care Unit (ICU) Summary Report (V2)

[Intensive Care Unit \(ICU\) Summary Report \(V2\)](#)  
[\(urn:hl7ii:2.16.840.1.113883.10.20.5.40:2014-12-01\)](#)

Change	Old	New
Name	Intensive Care Unit (ICU) Summary Report	Intensive Care Unit (ICU) Summary Report (V2)
Oid	urn:oid:2.16.840.1.113883.10.20.5.40	urn:hl7ii:2.16.840.1.113883.10.20.5.40:2014-12-01
CONF #: 1129-30596 Added		SHALL contain exactly one [1..1] @extension="2014-12-01" (CONF:1129-30596).
CONF #: 1129-28322 Modified	SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.7.1"	SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.7.2.2.1"

## 7.6 Neonatal Intensive Care Unit (NICU) Summary Report (V2)

[Neonatal Intensive Care Unit \(NICU\) Summary Report \(V2\)](#)  
[\(urn:hl7ii:2.16.840.1.113883.10.20.5.41:2014-12-01\)](#)

Change	Old	New
Name	Neonatal Intensive Care Unit (NICU) Summary Report	Neonatal Intensive Care Unit (NICU) Summary Report (V2)
Oid	urn:oid:2.16.840.1.113883.10.20.5.41	urn:hl7ii:2.16.840.1.113883.10.20.5.41:2014-12-01
CONF #: 1129-30595 Added		SHALL contain exactly one [1..1] @extension="2014-12-01" (CONF:1129-30595).
CONF #: 1129-28324 Modified	SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.7.1"	SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.7.2.2.1"

## 7.7 Prevention Process and Outcome Measures (POM) Summary Report (V2)

Prevention Process and Outcome Measures (POM) Summary Report (V2)  
(urn:hl7ii:2.16.840.1.113883.10.20.5.43:2014-12-01)

Change	Old	New
Name	Prevention Process and Outcome Measures (POM) Summary Report	Prevention Process and Outcome Measures (POM) Summary Report (V2)
Oid	urn:oid:2.16.840.1.113883.10.20.5.43	urn:hl7ii:2.16.840.1.113883.10.20.5.43:2014-12-01
Description	<p>The required title for the CDA document is "Prevention Process and Outcome Measures (POM) Monthly Monitoring".</p> <p>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.</p>	<p>Note: The section on "Template Ids in this Guide" includes a containment table showing all the entries within each report type.</p> <p>The required title for the CDA document is "Prevention Process and Outcome Measures (POM) Monthly Monitoring".</p> <p>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.</p>
CONF #: 1129-30549 Added		This template id represents the IG in which this template is published. SHALL contain exactly one [1..1] templateId (CONF:1129-30549) such that it
CONF #: 1129-30433 Added		This component SHALL contain exactly one [1..1] Summary Data Section (POM) (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.5.5.49:2014-12-01) (CONF:1129-30433).
CONF #: 1129-30550 Added		SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.7.2.2.1" (CONF:1129-30550).
CONF #: 1129-30476 Added		SHALL contain exactly one [1..1] @extension="2014-12-01" (CONF:1129-30476).
CONF #: 86-28325 Removed	This template id represents the IG in which this template is published. SHALL contain exactly one [1..1] templateId (CONF:86-28325) such that it	
CONF #: 86-28326 Removed	SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.	

Change	Old	New
	7.1" (CONF:86-28326).	
CONF #: 86-22897 Removed	This component SHALL contain exactly one [1..1] Summary Data Section (POM) (identifier: urn:oid:2.16.840.1.113883.10.20.5.5.49) (CONF:86-22897).	

## 7.8 Specialty Care Area (SCA) Summary Report (V2)

Specialty Care Area (SCA) Summary Report (V2)  
(urn:hl7ii:2.16.840.1.113883.10.20.5.42:2014-12-01)

Change	Old	New
Name	Specialty Care Area (SCA) Summary Report	Specialty Care Area (SCA) Summary Report (V2)
Oid	urn:oid:2.16.840.1.113883.10.20.5.42	urn:hl7ii:2.16.840.1.113883.10.20.5.42:2014-12-01
CONF #: 1129-30594 Added		SHALL contain exactly one [1..1] @extension="2014-12-01" (CONF:1129-30594).
CONF #: 1129-28328 Modified	SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.7.1"	SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.7.2.2.1"

## 7.9 Antimicrobial Susceptibility Result Observation (V2)

Antimicrobial Susceptibility Result Observation (V2)

(urn:hl7ii:2.16.840.1.113883.10.20.5.6.186:2014-12-01)

Change	Old	New
Name	Antimicrobial Susceptibility Result Observation	Antimicrobial Susceptibility Result Observation (V2)
Oid	urn:oid:2.16.840.1.113883.10.20.5.6.186	urn:hl7ii:2.16.840.1.113883.10.20.5.6.186:2014-12-01
CONF #: 1129-30551 Added		SHALL contain exactly one [1..1] templateId (CONF:1129-30551) such that it
CONF #: 1129-30552 Added		SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.2.4.2" (CONF:1129-30552).
CONF #: 1129-30553 Added		SHALL contain exactly one [1..1] @extension="2014-12-01" (CONF:1129-30553).
CONF #: 86-28205 Removed	SHALL contain exactly one [1..1] templateId (CONF:86-28205) such that it	
CONF #: 86-28206 Removed	SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.2.4.2" (CONF:86-28206).	
CONF #: 1129-22638 Modified	SHALL contain exactly one [1..1] code, which SHOULD be selected from ValueSet NHSNAntibioticSuscTest 2.16.840.1.114222.4.11.7161 STATIC	SHALL contain exactly one [1..1] code, which SHOULD be selected from ValueSet NHSNArDrugSuscTestsCode 2.16.840.1.114222.4.11.7230 STATIC 2014-09-01

## 7.10 Antimicrobial Susceptibility Result Organizer (V2)

### Antimicrobial Susceptibility Result Organizer (V2)

(urn:hl7ii:2.16.840.1.113883.10.20.5.6.200:2014-12-01)

Change	Old	New
Name	Antimicrobial Susceptibility Result Organizer	Antimicrobial Susceptibility Result Organizer (V2)
Oid	urn:oid:2.16.840.1.113883.10.20.5.6.200	urn:hl7ii:2.16.840.1.113883.10.20.5.6.200:2014-12-01
Description	This entry forms the grouper for a battery of antimicrobial susceptibility tests.	This entry groups a battery of antimicrobial susceptibility tests.
CONF #: 1129-30554 Added		SHALL contain exactly one [1..1] templateId (CONF:1129-30554) such that it
CONF #: 1129-30555 Added		SHALL contain exactly one [1..1] @extension="2014-12-01" (CONF:1129-30555).
CONF #: 1129-30591 Added		This id SHALL contain exactly one [1..1] @nullFlavor="NA" (CodeSystem: HL7NullFlavor 2.16.840.1.113883.5.1008) (CONF:1129-30591).
CONF #: 86-28207 Removed	SHALL contain exactly one [1..1] templateId (CONF:86-28207) such that it	
CONF #: 1129-27107 Modified	SHALL contain at least one [1..*] id	SHALL contain exactly one [1..1] id
CONF #: 1129-27112 Modified	Such components SHALL contain exactly one [1..1] Antimicrobial Susceptibility Result Observation (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.186)	Such components SHALL contain exactly one [1..1] Antimicrobial Susceptibility Result Observation (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.5.6.186:2014-12-01)

## 7.11 Antimicrobial Susceptibility Tests Organizer (V2)

### Antimicrobial Susceptibility Tests Organizer (V2)

(urn:hl7ii:2.16.840.1.113883.10.20.5.6.177:2014-12-01)

Change	Old	New
Name	Antimicrobial Susceptibility Tests Organizer	Antimicrobial Susceptibility Tests Organizer (V2)
Oid	urn:oid:2.16.840.1.113883.10.20.5.6.177	urn:hl7ii:2.16.840.1.113883.10.20.5.6.177:2014-12-01
Description	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.	This clinical statement identifies a set of antimicrobial susceptibility tests performed on a pathogen along with the final antimicrobial susceptibility result generated by those tests with regard to that pathogen-agent combination.
CONF #: 1129-30498 Added		SHALL contain exactly one [1..1] templateId (CONF:1129-30498) such that it
CONF #: 1129-30499 Added		SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.2.4.1" (CONF:1129-30499).
CONF #: 1129-30500 Added		SHALL contain exactly one [1..1] @extension="2014-12-01" (CONF:1129-30500).
CONF #: 86-27119 Removed	SHALL contain exactly one [1..1] Antimicrobial Susceptibility Antibiotic (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.176) (CONF:86-27119).	
CONF #: 1129-27178 Modified	SHALL contain exactly one [1..1] Antimicrobial Susceptibility Result Organizer (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.200)	SHALL contain exactly one [1..1] Antimicrobial Susceptibility Result Organizer (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.5.6.200:2014-12-01)

## 7.12 Central-Line Insertion Practice Clinical Statement (V2)

Central-Line Insertion Practice Clinical Statement (V2)

(urn:hl7ii:2.16.840.1.113883.10.20.5.6.116:2014-12-01)

Change	Old	New
Name	Central-Line Insertion Practice Clinical Statement	Central-Line Insertion Practice Clinical Statement (V2)
Oid	urn:oid:2.16.840.1.113883.10.20.5.6.116	urn:hl7ii:2.16.840.1.113883.10.20.5.6.116:2014-12-01
CONF #: 1129-30516 Added		SHALL contain exactly one [1..1] templateId (CONF:1129-30516) such that it
CONF #: 1129-30425 Added		SHALL contain exactly one [1..1] Central-Line Insertion Preparation Organizer (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.5.6.179:2014-12-01) (CONF:1129-30425).
CONF #: 1129-30517 Added		SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.2.4.12" (CONF:1129-30517).
CONF #: 1129-28111 Added		SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.6.116" (CONF:1129-28111).
CONF #: 1129-30518 Added		SHALL contain exactly one [1..1] @extension="2014-12-01" (CONF:1129-30518).
CONF #: 86-22010 Removed	SHALL contain exactly one [1..1] Central-Line Insertion Preparation Organizer (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.179) (CONF:86-22010).	
CONF #: 86-22967 Removed	SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.6.116" (CONF:86-22967).	
CONF #: 1129-22968 Modified	This id SHALL contain exactly one [1..1] @nullFlavor	This id SHALL contain exactly one [1..1] @nullFlavor="NA" (CodeSystem: HL7NullFlavor 2.16.840.1.113883.5.1008)

## 7.13 Central-Line Insertion Preparation Organizer (V2)

### Central-Line Insertion Preparation Organizer (V2)

(urn:hl7ii:2.16.840.1.113883.10.20.5.6.179:2014-12-01)

Change	Old	New
Name	Central-Line Insertion Preparation Organizer	Central-Line Insertion Preparation Organizer (V2)
Oid	urn:oid:2.16.840.1.113883.10.20.5.6.179	urn:hl7ii:2.16.840.1.113883.10.20.5.6.179:2014-12-01
CONF #: 1129-30426 Added		SHALL contain exactly one [1..1] Skin-Preparation Solutions Applied Organizer (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.5.6.183:2014-12-01) (CONF:1129-30426).
CONF #: 1129-30279 Added		SHALL contain exactly one [1..1] @extension="2014-12-01" (CONF:1129-30279).
CONF #: 86-23058 Removed	SHALL contain exactly one [1..1] Skin-Preparation Solutions Applied Organizer (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.183) (CONF:86-23058).	



## 7.14 Contraindicated Observation (V2)

Contraindicated Observation (V2) (urn:hl7ii:2.16.840.1.113883.10.20.5.6.118:2014-12-01)

Change	Old	New
Name	Contraindicated Observation	Contraindicated Observation (V2)
Oid	urn:oid:2.16.840.1.113883.10.20.5.6.118	urn:hl7ii:2.16.840.1.113883.10.20.5.6.118:2014-12-01
Description	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.	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 (i.e., ok to proceed with the treatment specified by the target statement), 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. If the skin preparation choice was not chlorhexidine and there was a contraindication to chlorhexidine, then the contraindication type is required.
CONF #: 1129-30519 Added		SHALL contain exactly one [1..1] templateId (CONF:1129-30519) such that it
CONF #: 1129-30520 Added		SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.2.4.19" (CONF:1129-30520).
CONF #: 1129-28106 Added		If the skin preparation choice was not chlorhexidine and there was a contraindication to chlorhexidine, the following entryRelationship is required. MAY contain zero or more [0..*] entryRelationship (CONF:1129-28106) such that it
CONF #: 1129-28107 Added		SHALL contain exactly one [1..1] @typeCode="RSON" Has reason (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002) (CONF:1129-28107).
CONF #: 1129-30427 Added		SHALL contain exactly one [1..1] Contraindication Type Observation (identifier: urn:hl7ii:2.16.840.1.113883.10.20.5.6.216:2014-12-01) (CONF:1129-

Change	Old	New
		30427).
CONF #: 1129-28109 Added		SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.6.118" (CONF:1129-28109).
CONF #: 1129-30521 Added		SHALL contain exactly one [1..1] @extension="2014-12-01" (CONF:1129-30521).
CONF #: 86-21795 Removed	SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.6.118" (CONF:86-21795).	
CONF #: 1129-21783 Modified	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	If the target statement was contraindicated, the value of @negationInd SHALL be false. If the target statement was not contraindicated (i.e., ok to proceed with the treatment specified by the target statement), the value of @negationInd SHALL be true. If the value of @negationInd is set then the value of @nullFlavor SHALL NOT be set

## 7.15 Infection Indicator Organizer (V2)

Infection Indicator Organizer (V2) (urn:hl7ii:2.16.840.1.113883.10.20.5.6.181:2014-12-01)

Change	Old	New
Name	Infection Indicator Organizer	Infection Indicator Organizer (V2)
Oid	urn:oid:2.16.840.1.113883.10.20.5.6.181	urn:hl7ii:2.16.840.1.113883.10.20.5.6.181:2014-12-01
CONF #: 1129-30429 Added		SHALL contain exactly one [1..1] Positive Blood Culture Observation (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.5.6.149:2014-12-01) (CONF:1129-30429).
CONF #: 1129-30287 Added		SHALL contain exactly one [1..1] @extension="2014-12-01" (CONF:1129-30287).
CONF #: 86-22238 Removed	SHALL contain exactly one [1..1] Positive Blood Culture Observation (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.149) (CONF:86-22238).	

## 7.16 Isolate Susceptibility Tests Organizer (V2)

### Isolate Susceptibility Tests Organizer (V2)

(urn:hl7ii:2.16.840.1.113883.10.20.5.6.201:2014-12-01)

Change	Old	New
Name	Isolate Susceptibility Tests Organizer	Isolate Susceptibility Tests Organizer (V2)
Oid	urn:oid:2.16.840.1.113883.10.20.5.6.201	urn:hl7ii:2.16.840.1.113883.10.20.5.6.201:2014-12-01
CONF #: 1129-30469 Added		SHALL contain exactly one [1..1] Antimicrobial Susceptibility Tests Organizer (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.5.6.177:2014-12-01) (CONF:1129-30469).
CONF #: 1129-30470 Added		SHALL contain exactly one [1..1] @extension="2014-12-01" (CONF:1129-30470).
CONF #: 86-27159 Removed	SHALL contain exactly one [1..1] Antimicrobial Susceptibility Tests Organizer (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.177) (CONF:86-27159).	

## 7.17 Pathogen Identified Observation (LIO) (V2)

### Pathogen Identified Observation (LIO) (V2)

(urn:hl7ii:2.16.840.1.113883.10.20.5.6.146:2014-12-01)

Change	Old	New
Name	Pathogen Identified Observation (LIO)	Pathogen Identified Observation (LIO) (V2)
Oid	urn:oid:2.16.840.1.113883.10.20.5.6.146	urn:hl7ii:2.16.840.1.113883.10.20.5.6.146:2014-12-01
Description	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.	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. If the bacterial isolate was one of CRE-Klebsiella (CREKLEB), CRE-Ecoli (CREECOLI), or CRE-Enterobacter (CREENTERO) any tests for carbapenemase are recorded, along with any carbapenemases identified.
CONF #: 1129-30417 Added		SHALL contain exactly one [1..1] Bacterial Isolate Tested for Carbapenemase Observation (identifier: urn:hl7ii:2.16.840.1.113883.10.20.5.6.222:2014-12-01) (CONF:1129-30417).
CONF #: 1129-30416 Added		If value is CRE-Klebsiella (CREKLEB), CRE-Ecoli (CREECOLI), or CRE-Enterobacter (CREENTERO), then this entryRelationship is required. MAY contain zero or one [0..1] entryRelationship (CONF:1129-30416) such that it
CONF #: 1129-30525 Added		SHALL contain exactly one [1..1] templateId (CONF:1129-30525) such that it
CONF #: 1129-30526 Added		SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.2.4.2" (CONF:1129-30526).
CONF #: 1129-30434 Added		SHALL contain exactly one [1..1] @typeCode="COMP" (CONF:1129-30434).
CONF #: 1129-30435 Added		SHALL contain exactly one [1..1] @typeCode="COMP" (CONF:1129-30435).

Change	Old	New
CONF #: 1129-30436 Added		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:1129-30436).
CONF #: 1129-30527 Added		SHALL contain exactly one [1..1] @extension="2014-12-01" (CONF:1129-30527).
CONF #: 1129-19876 Modified	This entryRelationship SHALL contain exactly one [1..1] Specimen Collection Procedure (LIO) (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.165)	SHALL contain exactly one [1..1] Specimen Collection Procedure (LIO) (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.165)
CONF #: 1129-19870 Modified	This code SHALL contain exactly one [1..1] @code="41852-5" Microorganism identified (CodeSystem: LOINC 2.16.840.1.113883.6.1 STATIC)	This code SHALL contain exactly one [1..1] @code="41852-5" Microorganism identified

## 7.18 Positive Blood Culture Observation (V2)

### Positive Blood Culture Observation (V2)

(urn:hl7ii:2.16.840.1.113883.10.20.5.6.149:2014-12-01)

Change	Old	New
Name	Positive Blood Culture Observation	Positive Blood Culture Observation (V2)
Oid	urn:oid:2.16.840.1.113883.10.20.5.6.149	urn:hl7ii:2.16.840.1.113883.10.20.5.6.149:2014-12-01
Description	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.	This clinical statement is an infection indicator. It is used in an Evidence of Infection (Dialysis) Report. When the positive blood culture was present, set the value of @negationInd to false. When the positive blood culture was not present, set the value of @negationInd to true.
CONF #: 1129-30314 Added		SHALL contain exactly one [1..1] Blood Collection Location (identifier: urn:hl7ii:2.16.840.1.113883.10.20.5.6.219:2014-12-01) (CONF:1129-30314).
CONF #: 1129-30312 Added		If the value of @negationInd is "false" this observation is required to contain the following entryRelationship SHOULD contain exactly one [1..1] entryRelationship (CONF:1129-30312) such that it
CONF #: 1129-30528 Added		SHALL contain exactly one [1..1] templateId (CONF:1129-30528) such that it
CONF #: 1129-30529 Added		SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.2.4.4" (CONF:1129-30529).
CONF #: 1129-30308 Added		If the value of @negationInd is "false" this observation is required to contain the following entryRelationship SHOULD contain exactly one [1..1] entryRelationship (CONF:1129-30308) such that it
CONF #: 1129-30309 Added		SHALL contain exactly one [1..1] @typeCode="CAUS" (CONF:1129-30309).
CONF #: 1129-30310 Added		SHALL contain exactly one [1..1] @inversionInd="true" (CONF:1129-30310).

Change	Old	New
CONF #: 1129-30311 Added		SHALL contain exactly one [1..1] Suspected Source Observation (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.168) (CONF:1129-30311).
CONF #: 1129-30313 Added		SHALL contain exactly one [1..1] @typeCode="COMP" (CONF:1129-30313).
CONF #: 1129-30530 Added		SHALL contain exactly one [1..1] @extension="2014-12-01" (CONF:1129-30530).
CONF #: 86-19831 Removed	SHALL contain exactly one [1..1] Suspected Source Observation (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.168) (CONF:86-19831).	
CONF #: 86-19828 Removed	SHALL contain exactly one [1..1] entryRelationship (CONF:86-19828) such that it	
CONF #: 86-19829 Removed	SHALL contain exactly one [1..1] @typeCode="CAUS" (CONF:86-19829).	
CONF #: 86-19830 Removed	SHALL contain exactly one [1..1] @inversionInd="true" (CONF:86-19830).	
CONF #: 1129-19827 Modified	If the value of @negationInd is 'false', this observation	If the value of @negationInd is 'false'
CONF #: 1129-19832 Modified	The report SHALL contain a Findings Section	The report *SHALL* contain a Findings Section
CONF #: 1129-19834 Modified	The report SHALL NOT contain a Findings Section	The report *SHALL NOT* contain a Findings Section

## 7.19 Prior Discharge Encounter (V2)

Prior Discharge Encounter (V2) (urn:hl7ii:2.16.840.1.113883.10.20.5.6.151:2014-12-01)

Change	Old	New
Name	Prior Discharge Encounter	Prior Discharge Encounter (V2)
Oid	urn:oid:2.16.840.1.113883.10.20.5.6.151	urn:hl7ii:2.16.840.1.113883.10.20.5.6.151:2014-12-01
Description	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.	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 the past four weeks. If the Prior Discharge Encounter is not applicable, use nullFlavor="NA".
CONF #: 1129-30423 Added		This effectiveTime SHOULD contain [0..0] high (CONF:1129-30423).
CONF #: 1129-30488 Added		SHALL contain exactly one [1..1] templateId (CONF:1129-30488) such that it
CONF #: 1129-30489 Added		SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.2.4.49" (CONF:1129-30489).
CONF #: 1129-30478 Added		Use nullFlavor="NA" where the prior discharge encounter is not applicable. MAY contain zero or one [0..1] @nullFlavor="NA" (CONF:1129-30478).
CONF #: 1129-30275 Added		SHALL contain exactly one [1..1] @extension="2014-12-01" (CONF:1129-30275).
CONF #: 1129-30490 Added		Use nullFlavor="NA" where the prior discharge encounter is not applicable. This effectiveTime MAY contain zero or one [0..1] @nullFlavor="NA" (CONF:1129-30490).
CONF #: 86-21710 Removed	This effectiveTime SHALL contain exactly one [1..1] high (CONF:86-21710).	
CONF #: 1129-21711 Modified	This high SHALL contain exactly one [1..1] @value	This date must be within the past four weeks. The high, if present, SHALL contain exactly one [1..1] @value



## 7.20 Skin Preparation Clinical Statement (V2)

### Skin Preparation Clinical Statement (V2)

(urn:hl7ii:2.16.840.1.113883.10.20.5.6.162:2014-12-01)

Change	Old	New
Name	Skin Preparation Clinical Statement	Skin Preparation Clinical Statement (V2)
Oid	urn:oid:2.16.840.1.113883.10.20.5.6.162	urn:hl7ii:2.16.840.1.113883.10.20.5.6.162:2014-12-01
CONF #: 1129-30431 Added		SHALL contain exactly one [1..1] Contraindicated Observation (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.5.6.118:2014-12-01) (CONF:1129-30431).
CONF #: 1129-30537 Added		SHALL contain exactly one [1..1] templateId (CONF:1129-30537) such that it
CONF #: 1129-30538 Added		SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.2.4.16" (CONF:1129-30538).
CONF #: 1129-30539 Added		SHALL contain exactly one [1..1] @extension="2014-12-01" (CONF:1129-30539).
CONF #: 1129-30556 Added		This manufacturedProduct SHALL contain exactly one [1..1] templateId (CONF:1129-30556) such that it
CONF #: 1129-30557 Added		SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.2.4.23" (CONF:1129-30557).
CONF #: 86-23293 Removed	The entryRelationship, if present, SHALL contain exactly one [1..1] Contraindicated Observation (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.118) (CONF:86-23293).	
CONF #: 86-28350 Removed	This manufacturedProduct SHALL contain exactly one [1..1] templateId (CONF:86-28350) such that it	
CONF #: 86-28351 Removed	SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.2.4.23" (CONF:86-28351).	
CONF #: 1129-23291 Modified	When recording whether chlorhexidine gluconate was applied, if it was not applied, NHSN protocol records whether there was a contraindication to it. MAY contain zero or one [0..1] entryRelationship	When recording whether chlorhexidine gluconate was applied, if it was not applied, NHSN protocol requires that it be recorded whether there was a contraindication to it. MAY contain zero or one [0..1]

Change	Old	New
		entryRelationship
CONF #: 1129-23292 Modified	The entryRelationship, if present, SHALL contain exactly one [1..1] @typeCode="RSON" (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002)	SHALL contain exactly one [1..1] @typeCode="RSON" (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002)

## 7.21 Skin-Preparation Solutions Applied Organizer (V2)

### Skin-Preparation Solutions Applied Organizer (V2)

(urn:hl7ii:2.16.840.1.113883.10.20.5.6.183:2014-12-01)

Change	Old	New
Name	Skin-Preparation Solutions Applied Organizer	Skin-Preparation Solutions Applied Organizer (V2)
Oid	urn:oid:2.16.840.1.113883.10.20.5.6.183	urn:hl7ii:2.16.840.1.113883.10.20.5.6.183:2014-12-01
Description	<p>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.</p> <p>The Skin Preparation Clinical Statement provides the list of skin preparation solutions to record.</p>	<p>This organizer 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.</p> <p>The Skin Preparation Clinical Statement provides the list of skin preparation solutions to record.</p>
CONF #: 1129-30432 Added		Such components SHALL contain exactly one [1..1] Skin Preparation Clinical Statement (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.5.6.162:2014-12-01) (CONF:1129-30432).
CONF #: 1129-28110 Added		SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.6.183" (CONF:1129-28110).
CONF #: 1129-30293 Added		SHALL contain exactly one [1..1] @extension="2014-12-01" (CONF:1129-30293).
CONF #: 86-22255 Removed	SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.6.183" (CONF:86-22255).	
CONF #: 86-22261 Removed	Such components SHALL contain exactly one [1..1] Skin Preparation Clinical Statement (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.162) (CONF:86-22261).	

## 7.22 Specimen Collection Procedure (ARO) (V2)

### Specimen Collection Procedure (ARO) (V2)

(urn:hl7ii:2.16.840.1.113883.10.20.5.6.188:2014-12-01)

Change	Old	New
Name	Specimen Collection Procedure (ARO)	Specimen Collection Procedure (ARO) (V2)
Oid	urn:oid:2.16.840.1.113883.10.20.5.6.188	urn:hl7ii:2.16.840.1.113883.10.20.5.6.188:2014-12-01
CONF #: 1129-30471 Added		SHALL contain exactly one [1..1] Isolate Susceptibility Tests Organizer (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.5.6.201:2014-12-01) (CONF:1129-30471).
CONF #: 1129-30472 Added		SHALL contain exactly one [1..1] @extension="2014-12-01" (CONF:1129-30472).
CONF #: 86-27166 Removed	SHALL contain exactly one [1..1] Isolate Susceptibility Tests Organizer (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.201) (CONF:86-27166).	

## 7.23 Details Section in an Evidence of Infection (Dialysis) Report (V3)

### Details Section in an Evidence of Infection (Dialysis) Report (V3)

(urn:hl7ii:2.16.840.1.113883.10.20.5.5.41:2014-12-01)

Change	Old	New
Name	Details Section in an Evidence of Infection (Dialysis) Report (V2)	Details Section in an Evidence of Infection (Dialysis) Report (V3)
Oid	urn:oid:2.16.840.1.113883.10.20.5.5.41.2	urn:hl7ii:2.16.840.1.113883.10.20.5.5.41:2014-12-01
CONF #: 1129-30428 Added		SHALL contain exactly one [1..1] Infection Indicator Organizer (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.5.6.181:2014-12-01) (CONF:1129-30428).
CONF #: 1129-30224 Added		SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.5.41" (CONF:1129-30224).
CONF #: 1129-30282 Added		SHALL contain exactly one [1..1] @extension="2014-12-01" (CONF:1129-30282).
CONF #: 1101-30254 Removed	SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.5.41.2" (CONF:1101-30254).	
CONF #: 1101-22343 Removed	SHALL contain exactly one [1..1] Infection Indicator Organizer (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.181) (CONF:1101-22343).	

## 7.24 Encounters Section in a LIO Report (V2)

### Encounters Section in a LIO Report (V2)

(urn:hl7ii:2.16.840.1.113883.10.20.5.5.44:2014-12-01)

Change	Old	New
Name	Encounters Section in a LIO Report	Encounters Section in a LIO Report (V2)
Oid	urn:oid:2.16.840.1.113883.10.20.5.5.44	urn:hl7ii:2.16.840.1.113883.10.20.5.5.44:2014-12-01
Description	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.	In a LIO Report, the Encounters Section contains entries representing the last physical overnight location of the patient along with whether in the past four weeks the patient was either discharged from the facility or from another facility. It also records the date of that discharge.
CONF #: 1129-30422 Added		SHALL contain exactly one [1..1] Prior Discharge Encounter (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.5.6.151:2014-12-01) (CONF:1129-30422).
CONF #: 1129-28240 Added		SHALL contain exactly one [1..1] entry (CONF:1129-28240) such that it
CONF #: 1129-30273 Added		SHALL contain exactly one [1..1] entry (CONF:1129-30273) such that it
CONF #: 1129-30283 Added		SHALL contain exactly one [1..1] @extension="2014-12-01" (CONF:1129-30283).
CONF #: 1129-30575 Added		SHALL contain exactly one [1..1] Last Physical Overnight Location Act (identifier: urn:hl7ii:2.16.840.1.113883.10.20.5.6.227:2014-12-01) (CONF:1129-30575).
CONF #: 1129-30588 Added		SHALL contain exactly one [1..1] Other Facility Discharge Act (identifier: urn:hl7ii:2.16.840.1.113883.10.20.5.6.228:2014-12-01) (CONF:1129-30588).
CONF #: 86-22369 Removed	This entry SHALL contain exactly one [1..1] Prior Discharge Encounter (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.151) (CONF:86-22369).	

## 7.25 Findings Section in a LIO Report (V2)

### Findings Section in a LIO Report (V2)

(urn:hl7ii:2.16.840.1.113883.10.20.5.5.46:2014-12-01)

Change	Old	New
Name	Findings Section in a LIO Report	Findings Section in a LIO Report (V2)
Oid	urn:oid:2.16.840.1.113883.10.20.5.5.46	urn:hl7ii:2.16.840.1.113883.10.20.5.5.46:2014-12-01
CONF #: 1129-30419 Added		SHALL contain exactly one [1..1] Pathogen Identified Observation (LIO) (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.5.6.146:2014-12-01) (CONF:1129-30419).
CONF #: 1129-30463 Added		SHALL contain exactly one [1..1] @extension="2014-12-01" (CONF:1129-30463).
CONF #: 86-22385 Removed	SHALL contain exactly one [1..1] Significant Pathogens Observation (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.161) (CONF:86-22385).	
CONF #: 86-22383 Removed	SHALL contain exactly one [1..1] Pathogen Identified Observation (LIO) (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.146) (CONF:86-22383).	
CONF #: 86-22384 Removed	SHALL contain exactly one [1..1] entry (CONF:86-22384) such that it	

## 7.26 Findings Section in an ARO Report (V2)

### Findings Section in an ARO Report (V2)

(urn:hl7ii:2.16.840.1.113883.10.20.5.5.32:2014-12-01)

Change	Old	New
Name	Findings Section in an ARO Report	Findings Section in an ARO Report (V2)
Oid	urn:oid:2.16.840.1.113883.10.20.5.5.32	urn:hl7ii:2.16.840.1.113883.10.20.5.5.32:2014-12-01
CONF #: 1129-30473 Added		This entry SHALL contain exactly one [1..1] Specimen Collection Procedure (ARO) (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.5.6.188:2014-12-01) (CONF:1129-30473).
CONF #: 1129-30475 Added		SHALL contain exactly one [1..1] @extension="2014-12-01" (CONF:1129-30475).
CONF #: 86-27167 Removed	This entry SHALL contain exactly one [1..1] Specimen Collection Procedure (ARO) (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.188) (CONF:86-27167).	

## 7.27 Infection Risk Factors Section in a CLIP Report (V2)

Infection Risk Factors Section in a CLIP Report (V2)  
(urn:hl7ii:2.16.840.1.113883.10.20.5.5.34:2014-12-01)

Change	Old	New
Name	Infection Risk Factors Section in a CLIP Report	Infection Risk Factors Section in a CLIP Report (V2)
Oid	urn:oid:2.16.840.1.113883.10.20.5.5.34	urn:hl7ii:2.16.840.1.113883.10.20.5.5.34:2014-12-01
Description	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.	In a Central Line Insertion Practice (CLIP) Report, the Infection Risk Factors Section contains a single Central-Line Insertion Practice Clinical Statement, which contains a set of sequenced events. This section also optionally contains an Antimicrobial Coated Catheter Used Observation.
CONF #: 1129-30430 Added		SHALL contain exactly one [1..1] Central-Line Insertion Practice Clinical Statement (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.5.6.116:2014-12-01) (CONF:1129-30430).
CONF #: 1129-28199 Added		SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.5.34" (CONF:1129-28199).
CONF #: 1129-28213 Added		SHOULD contain zero or one [0..1] entry (CONF:1129-28213) such that it
CONF #: 1129-28214 Added		SHALL contain exactly one [1..1] Antimicrobial Coated Catheter Used Observation (identifier: urn:hl7ii:2.16.840.1.113883.10.20.5.6.217:2014-12-01) (CONF:1129-28214).
CONF #: 1129-30288 Added		SHALL contain exactly one [1..1] @extension="2014-12-01" (CONF:1129-30288).
CONF #: 86-22276 Removed	This entry SHALL contain exactly one [1..1] Central-Line Insertion Practice Clinical Statement (identifier: urn:oid:2.16.840.1.113883.10.20.5.6.116) (CONF:86-22276).	
CONF #: 86-22278 Removed	SHALL contain exactly one [1..1] @root="2.16.840.1.113883.10.20.5.5.34" (CONF:86-22278).	



## 7.28 Summary Data Section (POM) (V2)

Summary Data Section (POM) (V2) (urn:hl7ii:2.16.840.1.113883.10.20.5.5.49:2014-12-01)

Change	Old	New
Name	Summary Data Section (POM)	Summary Data Section (POM) (V2)
Oid	urn:oid:2.16.840.1.113883.10.20.5.5.49	urn:hl7ii:2.16.840.1.113883.10.20.5.5.49:2014-12-01
Description	<p>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.</p>	<p>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.</p> <p>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. For facility-wide reporting, at the end of each quarter, the NHSN protocol requires the primary C. difficile testing method used most often.</p>
CONF #: 1129-30333 Added		<p>Required per NHSN Protocol only if location is facility-wide and month is March, June, September, or December.</p> <p>SHOULD contain zero or one [0..1] entry (CONF:1129-30333) such that it</p>
CONF #: 1129-30334 Added		<p>SHALL contain exactly one [1..1] Primary C. Difficile Testing Method This Quarter (identifier: urn:hl7ii:2.16.840.1.113883.10.20.5.6.221:2014-12-01) (CONF:1129-30334).</p>
CONF #: 1129-30477 Added		<p>SHALL contain exactly one [1..1] @extension="2014-12-01" (CONF:1129-30477).</p>
CONF #: 1129-22885 Modified	<p>Such entries SHALL contain exactly one [1..1] Summary Encounter (POM) (identifier: urn:oid:2.16.840.1.113883.10.20.5</p>	<p>SHALL contain exactly one [1..1] Summary Encounter (POM) (identifier: urn:oid:2.16.840.1.113883.10.20.5</p>

Change	Old	New
	.6.193)	.6.193)