Implementation Guide for CDA Release 2
Acute Hepatitis B Case Report CDA R2
Optional Subtitle

Model Driven Health Tools

PROTOTYPE: FOR DISCUSSION
AND DEMONSTRATION USE ONLY
(Consolidated Developer Documentation)

Contents

Acknowledgments

Revision History

Rev	Date	By Whom	Changes
New	July 2010	Dave Carlson	
First draft for posting	December 2010	Dave Carlson	Updated model content and publication format

Chapter

1

INTRODUCTION

Topics:

- *Overview*
- *Approach*
- *Scope*
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- *Use of Templates*
- *Conventions Used in This Guide*

Overview

This implementation guide is generated from UML models developed in the Open Health Tools (OHT) Model-Driven Health Tools (MDHT) project. The data specifications have been formalized into computational models expressed in UML. These models are used by automated tooling to generate this publication, plus validation tools and Java libraries for implementers.

Approach

Working with specifications generated from formal UML models provides the opportunity to work with the data from the perspective of the underlying model and electronic format and to explore many design issues thoroughly. Taking this as an initial step ensures that the data set developers and standards community can reach consensus prior to the larger commitment of time that would be required to bring the full data set into standard format.

This project supports reusability and ease of data collection through a standard data representation harmonized with work developed through Health Information Technology Expert Panel (HITEP), balloted through Health Level Seven (HL7) and/or recognized by the Health Information Technology Standards Panel (HITSP).

This implementation guide (IG) specifies a standard for electronic submission of NCRs in a Clinical Document Architecture (CDA), Release 2 format.

Scope

TODO: scope of this implementation guide.

Audience

The audience for this document includes software developers and implementers who wish to develop...

Organization of This Guide

The requirements as laid out in the body of this document are subject to change per the policy on implementation guides (see section 13.02" Draft Standard for Trial Use Documents" within the HL7 Governance and Operations Manual, *http://www.hl7.org/documentcenter/public/membership/HL7_Governance_and_Operations_Manual.pdf*).

Templates

Templates are organized by document (see Document Templates), by section (see Section Templates), and by clinical statements (see Clinical Statement Templates). Within a section, templates are arranged hierarchically, where a more specific template is nested under the more generic template that it conforms to. See Templates by Containment for a listing of the higher level templates by containment; the appendix Templates Used in This Guide includes a table of all of the templates Organized Hierarchically.

Vocabulary and Value Sets

Vocabularies recommended in this guide are from standard vocabularies. When SNOMED codes are used, rules defined in Using SNOMED CT in HL7 Version 3 are adhered to. In many cases, these vocabularies are further constrained into value sets for use within this guide. Value set names and OIDs are summarized in the table Summary of Value Sets. Each named value set in this summary table is stored in a template database that will be maintained by CHCA.

Use of Templates

When valued in an instance, the template identifier (`templateId`) signals the imposition of a set of template-defined constraints. The value of this attribute provides a unique identifier for the templates in question.

Originator Responsibilities

An originator can apply a `templateId` to assert conformance with a particular template.

In the most general forms of CDA exchange, an originator need not apply a `templateId` for every template that an object in an instance document conforms to. This implementation guide asserts when `templateId`s are required for conformance.

Recipient Responsibilities

A recipient may reject an instance that does not contain a particular `templateId` (e.g., a recipient looking to receive only CCD documents can reject an instance without the appropriate `templateId`).

A recipient may process objects in an instance document that do not contain a `templateId` (e.g., a recipient can process entries that contain Observation acts within a Problems section, even if the entries do not have `templateId`s).

Conventions Used in This Guide

Conformance Requirements

Conformance statements are grouped and identified by the name of the template, along with the templateId and the context of the template (e.g., ClinicalDocument, section, observation), which specifies the element under constraint. If a template is a specialization of another template, its first constraint indicates the more general template. In all cases where a more specific template conforms to a more general template, asserting the more specific template also implies conformance to the more general template. An example is shown below.

Template name

```
[<type of template>: templateId <XXXX.XX.XXX.XXX>]
```

Description of the template will be here .....

1. Conforms to <The template name> Template (templateId: XXXX<XX>XXX>YYY).
2. **SHALL** contain [1..1] @classCode = <AAA> <code display name> (CodeSystem: 123.456.789 <XXX> Class) **STATIC** (CONF:<number>).
3. ....

Figure 1: Template name and "conforms to" appearance

The conformance verb keyword at the start of a constraint (**SHALL** , **SHOULD** , **MAY**, etc.) indicates business conformance, whereas the cardinality indicator (0..1, 1..1, 1..*, etc.) specifies the allowable occurrences within an instance. Thus, " **MAY** contain 0..1" and " **SHOULD** contain 0..1" both allow for a document to omit the particular component, but the latter is a stronger recommendation that the component be included if it is known.

The following cardinality indicators may be interpreted as follows:

0..1 as zero to one present
1..1 as one and only one present
2..2 as two must be present
1..* as one or more present
0..* as zero to many present

Value set bindings adhere to HL7 Vocabulary Working Group best practices, and include both a conformance verb (**SHALL** , **SHOULD** , **MAY,** etc.) and an indication of **DYNAMIC** vs. **STATIC** binding. The use of **SHALL** requires that the component be valued with a member from the cited value set; however, in every case any HL7 "null" value such as other (OTH) or unknown (UNK) may be used.

Each constraint is uniquely identified (e.g., "CONF:605") by an identifier placed at or near the end of the constraint. These identifiers are not sequential as they are based on the order of creation of the constraint.

1. **SHALL** contain [1..1] component/structuredBody (CONF:4082).

   a. This component/structuredBody **SHOULD** contain [0..1] component (CONF:4130) such that it

      a. **SHALL** contain [1..1] Reporting Parameters section (templateId:2.16.840.1.113883.10.20.17.2.1) (CONF:4131).

   b. This component/structuredBody **SHALL** contain [1..1] component (CONF:4132) such that it

      a. **SHALL** contain [1..1] Patient data section - NCR (templateId:2.16.840.1.113883.10.20.17.2.5) (CONF:4133).

Figure 2: Template-based conformance statements example

CCD templates are included within this implementation guide for ease of reference. CCD templates contained within this implementation guide are formatted WITHOUT typical **KEYWORD** and **XML** element styles. A WIKI site is available if you would like to make a comment to be considered for the next release of CCD: *http://wiki.hl7.org/ index.php?title=CCD_Suggested_Enhancements* The user name and password are: wiki/wikiwiki. You will need to create an account to edit the page and add your suggestion.

1. The value for "Observation / @moodCode" in a problem observation SHALL be "EVN" 2.16.840.1.113883.5.1001 ActMood STATIC. (CONF: 814).
2. A problem observation SHALL include exactly one Observation / statusCode. (CONF: 815).
3. The value for "Observation / statusCode" in a problem observation SHALL be "completed" 2.16.840.1.113883.5.14 ActStatus STATIC. (CONF: 816).
4. A problem observation SHOULD contain exactly one Observation / effectiveTime, to indicate the biological timing of condition (e.g. the time the condition started, the onset of the illness or symptom, the duration of a condition). (CONF: 817).

Figure 3: CCD conformance statements example

Keywords

The keywords SHALL, SHALL NOT, SHOULD, SHOULD NOT, MAY, and NEED NOT in this document are to be interpreted as described in the *HL7 Version 3 Publishing Facilitator's Guide*:

• **SHALL**: an absolute requirement
• **SHALL NOT**: an absolute prohibition against inclusion
• **SHOULD/SHOULD NOT**: valid reasons to include or ignore a particular item, but must be understood and carefully weighed
• **MAY/NEED NOT**: truly optional; can be included or omitted as the author decides with no implications

XML Examples

XML samples appear in various figures in this document in a fixed-width font. Portions of the XML content may be omitted from the content for brevity, marked by an ellipsis (…) as shown in the example below.

```
<ClinicalDocument xmlns='urn:hl7-org:v3'>
  ...
</ClinicalDocument>
```

Figure 4: ClinicalDocument example

XPath expressions are used in the narrative and conformance requirements to identify elements because they are familiar to many XML implementers.

Chapter

2

DOCUMENT TEMPLATES

Topics:

This section contains the document level constraints for CDA documents that are compliant with this implementation guide.

Acute Hepatitis B Case Report

[ClinicalDocument: templateId `2.16.840.1.113883.10.20.15.1.2`]

1. **SHALL** conform to *PHCR Public Health Case Report* template (templateId: `2.16.840.1.113883.10.20.15`)
2. Contains exactly one [1..1] **typeId**, where its data type is InfrastructureRootTypeId
3. Contains exactly one [1..1] **id**, where its data type is II
4. **SHALL** contain exactly one [1..1] **code/@code**="55751-2" *Public Health Case Report* (CodeSystem: `2.16.840.1.113883.6.1 LOINC`) (CONF:546)
5. **SHALL** contain exactly one [1..1] **title** = "Public Health Case Report - Acute Hepatitis B" (CONF:1269)
6. Contains exactly one [1..1] **effectiveTime**, where its data type is TS
7. Contains exactly one [1..1] **confidentialityCode**, where its data type is CE
8. Contains at least one [1..*] **recordTarget**, where its type is *Record Target*
9. Contains at least one [1..*] **author**, where its type is *Author*
10. Contains exactly one [1..1] **custodian**, where its type is *Custodian*
11. Contains exactly one [1..1] **component**, where its type is *Component2*
12. **SHOULD** contain zero or one [0..1] **component** (CONF:643, CONF:609), such that

    a. Contains exactly one [1..1] *Phcr Encounters Section* (templateId: `2.16.840.1.113883.10.20.15.2.2`)
13. **MAY** contain zero or one [0..1] **component**, such that

    a. Contains exactly one [1..1] *CCD Immunizations Section* (templateId: `2.16.840.1.113883.10.20.1.6`)
14. **SHOULD** contain zero or one [0..1] **component** (CONF:1272, CONF:1271), such that

    a. Contains exactly one [1..1] *Acute Hepatitis B Social History Section* (templateId: `2.16.840.1.113883.10.20.15.2.11`)
15. **SHOULD** contain zero or one [0..1] **component** (CONF:1273, CONF:1274), such that

    a. Contains exactly one [1..1] *Acute Hepatitis B Immunization Section* (templateId: `2.16.840.1.113883.10.20.15.2.9`)
16. **SHALL** contain exactly one [1..1] **component** (CONF:1275, CONF:1276), such that

    a. Contains exactly one [1..1] *Acute Hepatitis BPHCR Clinical Information Section* (templateId: `2.16.840.1.113883.10.20.15.2.12`)
17. **SHOULD** contain zero or one [0..1] **component** (CONF:1277, CONF:1278), such that

    a. Contains exactly one [1..1] *Acute Hepatitis BPHCR Treatment Information Section* (templateId: `2.16.840.1.113883.10.20.15.2.10`)
18. **SHOULD** contain zero or one [0..1] **component**, such that

    a. Contains exactly one [1..1] *Acute Hepatitis BPHCR Relevant Diagnostic Tests And Or Laboratory Data Section* (templateId: `2.16.840.1.113883.10.20.15.2.13`)
19. **SHALL** contain [1..1] recordTarget (CONF:547)

    - [OCL]: `self.recordTarget->one(recordTarget : cda::RecordTarget | not recordTarget.oclIsUndefined())`
20. RecordTarget **SHALL** contain [1..1] patientRole (CONF:548)

    - [OCL]: `self.recordTarget.patientRole->one(patientRole : cda::PatientRole | not patientRole.oclIsUndefined())`
21. RecordTarget / PatientRole **SHALL** contain [1..*] id (CONF:549)

    - [OCL]: `self.recordTarget.patientRole.id->exists(id : datatypes::II | not id.root.oclIsUndefined() or not id.extension.oclIsUndefined() or not id.nullFlavor.oclIsUndefined())`
22. RecordTarget / PatientRole **SHOULD** contain [0..*] addr (CONF:550)

23. RecordTarget / PatientRole **SHOULD** contain [0..*] telecom (CONF:551)
24. RecordTarget / PatientRole **SHOULD** contain [0..1] patient (CONF:552)
25. RecordTarget / PatientRole / Patient **SHOULD** contain [0..*] name (CONF:553)
26. RecordTarget / PatientRole / Patient **SHOULD** contain [0..1] administrativeGenderCode/@code, which **SHALL** be selected from ValueSet 2.16.840.1.113883.1.11.1 Administrative Gender (HL7 V3) DYNAMIC (CONF:554)
27. RecordTarget / PatientRole / Patient **SHOULD** contain [0..1] birthTime (CONF:555)
28. RecordTarget / PatientRole / Patient **SHOULD** contain [0..1] ethnicGroupCode, which **SHALL** be selected from ValueSet 2.16.840.1.114222.4.11.837 Ethnicity group DYNAMIC (CONF:556)
29. RecordTarget / PatientRole / Patient **SHOULD** contain [0..1] birthplace/place, which **SHALL** be selected from ValueSet 2.16.840.1.114222.4.11.3200 Birth Country DYNAMIC (CONF:557)
30. **SHALL** contain [1..*] author (CONF:1853)

   - ```
     [OCL]: self.author->exists(author : cda::Author | not
     author.oclIsUndefined())
     ```
31. Author **SHALL** contain [1..1] time (CONF:560)

   - ```
     [OCL]: self.author.time->one(time : datatypes::TS | not
     time.value.oclIsUndefined() or not time.nullFlavor.oclIsUndefined())
     ```
32. Author **SHALL** contain [1..1] assignedAuthor (CONF:561)

   - ```
     [OCL]: self.author.assignedAuthor->one(assignedAuthor :
     cda::AssignedAuthor | not assignedAuthor.oclIsUndefined())
     ```
33. Author / AssignedAuthor **SHALL** contain [1..*] id (CONF:562)

   - ```
     [OCL]: self.author.assignedAuthor.id->exists(id : datatypes::II | not
     id.root.oclIsUndefined() or not id.extension.oclIsUndefined() or not
     id.nullFlavor.oclIsUndefined())
     ```
34. Author / AssignedAuthor **SHALL** contain [1..1] addr (CONF:562)

   - ```
     [OCL]: self.author.assignedAuthor.addr->one(addr : datatypes::AD | not
     addr.oclIsUndefined())
     ```
35. Author / AssignedAuthor **SHALL** contain [1..1] telecom (CONF:564)

   - ```
     [OCL]: self.author.assignedAuthor.telecom->one(tel : datatypes::TEL | not
     tel.oclIsUndefined())
     ```
36. Author / AssignedAuthor **SHALL** contain [1..1] assignedPerson/name (CONF:565)

   - ```
     [OCL]: self.author.assignedAuthor.assignedPerson->one(assignedPerson :
     cda::Person | not assignedPerson.oclIsUndefined()) and
     self.author.assignedAuthor.assignedPerson.name->one(name : datatypes::PN
     | not name.oclIsUndefined())
     ```
37. The custodian of a public health case report **SHALL** be the reporting organization. (CONF:1616)
38. **SHALL** contain [1..1] legalAuthenticator (CONF:1854)

   - ```
     [OCL]: self.legalAuthenticator->one(legalAuthenticator :
     cda::LegalAuthenticator | not legalAuthenticator.oclIsUndefined())
     ```
39. LegalAuthenticator **SHALL** contain [1..1] time (CONF:1855)

   - ```
     [OCL]: self.legalAuthenticator.time->one(time : datatypes::TS | not
     time.value.oclIsUndefined() or not time.nullFlavor.oclIsUndefined())
     ```
40. LegalAuthenticator **SHALL** contain [1..1] assignedEntity (CONF:1856)

   - ```
     [OCL]: self.legalAuthenticator.assignedEntity->one(assignedEntity :
     cda::AssignedEntity | not assignedEntity.oclIsUndefined())
     ```
41. LegalAuthenticator / AssignedEntity **SHALL** contain [1..*] id (CONF:1857)

   - ```
     [OCL]: self.legalAuthenticator.assignedEntity.id->exists(id :
     datatypes::II | not id.root.oclIsUndefined() or not
     id.extension.oclIsUndefined() or not id.nullFlavor.oclIsUndefined())
     ```
42. LegalAuthenticator / AssignedEntity **SHALL** contain [1..1] addr (CONF:1857)

   - ```
     [OCL]: self.legalAuthenticator.assignedEntity.addr->one(addr :
     datatypes::AD | not addr.oclIsUndefined())
     ```

43. LegalAuthenticator / AssignedEntity **SHALL** contain [1..1] telecom (CONF:1859)

44. LegalAuthenticator / AssignedEntity **SHALL** contain [1..1] assignedPerson/name (CONF:1860)

- ```
  [OCL]: self.legalAuthenticator.assignedEntity.assignedPerson-
  >one(assignedPerson : cda::Person | not assignedPerson.oclIsUndefined())
   and self.legalAuthenticator.assignedEntity.assignedPerson.name-
  >one(name : datatypes::PN | not name.oclIsUndefined())
  ```

45. Where a Public Health Case Report CDA R2 document contains any of the section or clinical statement templates defined in this implementation guide, such section or clinical statement **SHALL** include a templateId/@root valued with the corresponding template's identifier. (CONF:2017)

Acute Hepatitis B Case Report example

Chapter

3

SECTION TEMPLATES

Topics:

Acute Hepatitis B Immunization Section

[Section: templateId `2.16.840.1.113883.10.20.15.2.9`]

1. **SHALL** conform to *CCD Immunizations Section* template (templateId: `2.16.840.1.113883.10.20.1.6`)
2. **SHALL** contain at least one [1..*] **entry** (CONF:1054, CONF:1055, CONF:1056), such that
   a. Contains **@typeCode="**DRIV" *DRIV (is derived from)*
   b. Contains exactly one [1..1] *Acute Hepatitis B Immunization Activity* (templateId: `2.16.840.1.113883.10.20.15.3.25`)
3. **SHOULD** satisfy: ImmunizationsSectionHasMedicationOrSupplyActivity
   - ```
[OCL]: self.getSubstanceAdministrations()-
>exists(activity : cda::SubstanceAdministration |
 activity.oclIsKindOf(ccd::MedicationActivity))
   or self.getSupplies()->exists(activity : cda::Supply |
 activity.oclIsKindOf(ccd::SupplyActivity))
```
4. **SHALL** satisfy: ImmunizationsSectionTemplateId
   - ```
[OCL]: self.templateId->exists(id : datatypes::II | id.root =
 '2.16.840.1.113883.10.20.1.6')
```
5. **SHALL** satisfy: ImmunizationsSectionCode
   - ```
[OCL]: (self.code.oclIsUndefined() or self.code.isNullFlavorUndefined())
 implies (not self.code.oclIsUndefined() and
 self.code.oclIsKindOf(datatypes::CE) and
let value : datatypes::CE = self.code.oclAsType(datatypes::CE) in
value.code = '11369-6' and value.codeSystem = '2.16.840.1.113883.6.1')
```
6. **SHALL** satisfy: ImmunizationsSectionTitle
   - ```
[OCL]: (self.title.oclIsUndefined() or self.title.isNullFlavorUndefined())
 implies (not self.title.oclIsUndefined())
```
7. **SHALL** satisfy: ImmunizationsSectionText
   - ```
[OCL]: not self.text.oclIsUndefined()
```
8. **SHALL** satisfy: ImmunizationsSectionMedicationActivity
   - ```
[OCL]: self.entry->exists(entry : cda::Entry | not
 entry.substanceAdministration.oclIsUndefined() and
 entry.substanceAdministration.oclIsKindOf(ccd::MedicationActivity))
```
9. **SHALL** satisfy: ImmunizationsSectionSupplyActivity
   - ```
[OCL]: self.entry->exists(entry : cda::Entry | not
 entry.supply.oclIsUndefined() and
 entry.supply.oclIsKindOf(ccd::SupplyActivity))
```

Acute Hepatitis B Immunization Section example

Acute Hepatitis BPHCR Clinical Information Section

[Section: templateId `2.16.840.1.113883.10.20.15.2.12`]

1. **SHALL** conform to *PHCR Phcr Clinical Information Section* template (templateId: `2.16.840.1.113883.10.20.15.2.1`)
2. **SHALL** contain exactly one [1..1] **code/@code**="55752-0" *Clinical Information* (CodeSystem: `2.16.840.1.113883.6.1` LOINC) (CONF:540)
3. **SHALL** contain exactly one [1..1] **title** = "Clinical Information" (CONF:541)
4. **SHALL** contain exactly one [1..1] **text** (CONF:542)

5. **SHOULD** contain zero or more [0..*] **entry**, such that
   a. Contains **@typeCode="**DRIV" *DRIV (is derived from)*
   b. Contains exactly one [1..1] *Phcr Relevant Medical Condition History Observation* (templateId: `2.16.840.1.113883.10.20.15.3.62`)
6. **MAY** contain zero or one [0..1] **entry** (CONF:1912, CONF:1913, CONF:1914), such that
   a. Contains **@typeCode="**DRIV" *DRIV (is derived from)*
   b. Contains exactly one [1..1] *Patient Condition Alive Observation* (templateId: `2.16.840.1.113883.10.20.15.3.42`)
7. **MAY** contain zero or one [0..1] **entry** (CONF:1915, CONF:1916, CONF:1917), such that
   a. Contains **@typeCode="**DRIV" *DRIV (is derived from)*
   b. Contains exactly one [1..1] *Patient Condition Deceased Observation* (templateId: `2.16.840.1.113883.10.20.15.3.17`)
8. **SHALL** contain exactly one [1..1] **entry** (CONF:1220, CONF:1221, CONF:1228), such that
   a. Contains **@typeCode="**DRIV" *DRIV (is derived from)*
   b. Contains exactly one [1..1] *Acute Hepatitis B Case Observation* (templateId: `2.16.840.1.113883.10.20.15.3.30`)
9. **SHOULD** contain zero or more [0..*] **entry** (CONF:1224, CONF:1225, CONF:1223), such that
   a. Contains **@typeCode="**DRIV" *DRIV (is derived from)*
   b. Contains exactly one [1..1] *Acute Hepatitis B Risk Associated Procedure* (templateId: `2.16.840.1.113883.10.20.15.3.31`)
10. **SHOULD** contain zero or more [0..*] **entry** (CONF:1227, CONF:1222, CONF:1226), such that
    a. Contains **@typeCode="**DRIV" *DRIV (is derived from)*
    b. Contains exactly one [1..1] *Viral Hepatitis History Observation* (templateId: `2.16.840.1.113883.10.20.15.3.32`)
11. **SHOULD** contain zero or more [0..*] **entry** (CONF:1219, CONF:1229, CONF:1230), such that
    a. Contains **@typeCode="**DRIV" *DRIV (is derived from)*
    b. Contains exactly one [1..1] *STD History Observation* (templateId: `2.16.840.1.113883.10.20.15.3.33`)
12. TemplateId 2.16.840.1.113883.10.20.15.3.42 (Patient condition alive) and templateId 2.16.840.1.113883.10.20.15.3.17 (Patient condition deceased) **SHALL NOT** be present together in a CDA PHCR instance. (CONF:1918)

- ```
  [OCL]: self.getObservations()->exists(obs3 : cda::Observation
  | obs3.oclIsKindOf(phcr::PatientConditionAliveObservation) and
  not self.getObservations()->exists(obs4 : cda::Observation |
  obs4.oclIsKindOf(phcr::PatientConditionDeceasedObservation)))
  or self.getObservations()->exists(obs1 : cda::Observation |
  obs1.oclIsKindOf(phcr::PatientConditionDeceasedObservation)
  and not self.getObservations()->exists(obs2 : cda::Observation
  | obs2.oclIsKindOf(phcr::PatientConditionAliveObservation)))
  or self.getObservations()->forAll(obs : cda::Observation | not
  obs.oclIsKindOf(phcr::PatientConditionAliveObservation) and not
  obs.oclIsKindOf(phcr::PatientConditionDeceasedObservation))
  ```

Acute Hepatitis BPHCR Clinical Information Section example

Acute Hepatitis BPHCR Relevant Diagnostic Tests And Or Laboratory Data Section

[Section: templateId `2.16.840.1.113883.10.20.15.2.13`]

1. **SHALL** conform to *CCD Results Section* template (templateId: `2.16.840.1.113883.10.20.1.14`)
2. **SHALL** conform to *PHCR Phcr Relevant Dx Tests Section* template (templateId: `2.16.840.1.113883.10.20.15.2.3`)
3. **SHALL** contain exactly one [1..1] **code/@code**=`"30954-2"` *Relevant diagnostic tests and/or laboratory data* (CodeSystem: `2.16.840.1.113883.6.1` LOINC) (CONF-389)
4. **SHALL** contain exactly one [1..1] **title** = "Relevant diagnostic tests and/or laboratory data" (CONF-391)
5. **SHALL** contain exactly one [1..1] **text** (CONF-388, CONF:737)
6. **MAY** contain zero or more [0..*] **entry** (CONF:854, CONF:855, CONF:856), such that
   a. Contains **@typeCode="**DRIV" *DRIV (is derived from)*
   b. Contains exactly one [1..1] *Result Organizer* (templateId: `2.16.840.1.113883.10.20.15.3.59`)
7. **MAY** contain zero or more [0..*] **entry** (CONF:2014, CONF:2015, CONF:2016), such that
   a. Contains **@typeCode="**DRIV" *DRIV (is derived from)*
   b. Contains exactly one [1..1] *Imaging Observation* (templateId: `2.16.840.1.113883.10.20.15.3.5`)
8. **SHOULD** contain zero or more [0..*] **entry** (CONF:1259, CONF:1260, CONF:1261), such that
   a. Contains **@typeCode="**DRIV" *DRIV (is derived from)*
   b. Contains exactly one [1..1] *Acute Hepatitis B Result Observation* (templateId: `2.16.840.1.113883.10.20.15.3.34`)
9. **SHOULD** satisfy: Contains a case-insensitive language-insensitive string containing 'results'. (CONF-392)
   - UNIMPLEMENTABLE

Acute Hepatitis BPHCR Relevant Diagnostic Tests And Or Laboratory Data Section example

Acute Hepatitis BPHCR Treatment Information Section

[Section: templateId `2.16.840.1.113883.10.20.15.2.10`]

1. **SHALL** conform to *PHCR Phcr Treatment Information Section* template (templateId: `2.16.840.1.113883.10.20.15.2.4`)
2. **SHALL** contain exactly one [1..1] **code/@code**=`"55753-8"` *Treatment Information* (CodeSystem: `2.16.840.1.113883.6.1` LOINC) (CONF:663)
3. **SHALL** contain exactly one [1..1] **title** = "Treatment Information" (CONF:664)
4. **SHALL** contain exactly one [1..1] **text** (CONF:665)
5. **SHALL** contain exactly one [1..1] **entry**, such that
   a. Contains **@typeCode="**DRIV" *DRIV (is derived from)*
   b. Contains exactly one [1..1] *Acute Hepatitis B Therapeutic Regimen Act* (templateId: `2.16.840.1.113883.10.20.15.3.23`)

Acute Hepatitis BPHCR Treatment Information Section example

Acute Hepatitis B Social History Section

[Section: templateId `2.16.840.1.113883.10.20.15.2.11`]

1. **SHALL** conform to *CCD Social History Section* template (templateId: `2.16.840.1.113883.10.20.1.15`)
2. **SHALL** conform to *PHCR Phcr Social History Section* template (templateId: `2.16.840.1.113883.10.20.15.2.22`)
3. **SHALL** contain exactly one [1..1] **code/@code**=`"29762-2"` *Social History* (CodeSystem: `2.16.840.1.113883.6.1` LOINC) (CONF:1894)
4. **SHALL** contain exactly one [1..1] **title** = "Social History" (CONF:1895)
5. **SHALL** contain exactly one [1..1] **text** (CONF:1896)

6. **SHOULD** contain zero or more [0..*] **entry** (CONF:1897, CONF:1898, CONF:1899), such that
   a. Contains **@typeCode="**DRIV" *DRIV (is derived from)*
   b. Contains exactly one [1..1] *Geotemporal History Observation* (templateId: 2.16.840.1.113883.10.20.15.3.3)
7. **SHOULD** contain zero or one [0..1] **entry** (CONF:1900, CONF:1901, CONF:1902), such that
   a. Contains **@typeCode="**DRIV" *DRIV (is derived from)*
   b. Contains exactly one [1..1] *Most Recent Time Arrived In USA Observation* (templateId: 2.16.840.1.113883.10.20.15.3.6)
8. **SHOULD** contain zero or more [0..*] **entry** (CONF:1903, CONF:1904, CONF:1905), such that
   a. Contains **@typeCode="**DRIV" *DRIV (is derived from)*
   b. Contains exactly one [1..1] *Race Observation* (templateId: 2.16.840.1.113883.10.20.15.3.9)
9. **SHOULD** contain zero or more [0..*] **entry** (CONF:1906, CONF:1907, CONF:1908), such that
   a. Contains **@typeCode="**DRIV" *DRIV (is derived from)*
   b. Contains exactly one [1..1] *Occupation Observation* (templateId: 2.16.840.1.113883.10.20.15.3.7)
10. **MAY** contain zero or more [0..*] **entry** (CONF:1909, CONF:1910, CONF:1911), such that
    a. Contains **@typeCode="**DRIV" *DRIV (is derived from)*
    b. Contains exactly one [1..1] *Pregnancy Observation* (templateId: 2.16.840.1.113883.10.20.15.3.8)
11. **SHOULD** contain zero or more [0..*] **entry** (CONF:1125, CONF:1126, CONF:1127), such that
    a. Contains **@typeCode="**DRIV" *DRIV (is derived from)*
    b. Contains exactly one [1..1] *Job Related Body Fluid Exposure Risk Frequency Observation* (templateId: 2.16.840.1.113883.10.20.15.3.29)
12. **MAY** contain zero or more [0..*] **entry**, such that
    a. Contains **@typeCode="**DRIV" *DRIV (is derived from)*
    b. Contains exactly one [1..1] *Acute Hepatitis B Possible Exposure Location And Type Act* (templateId: 2.16.840.1.113883.10.20.15.3.27)
13. **SHOULD** contain zero or more [0..*] **entry**, such that
    a. Contains **@typeCode="**DRIV" *DRIV (is derived from)*
    b. Contains exactly one [1..1] *Acute Hepatitis B Socio Behavioral Boolean Risk Factor Observation* (templateId: 2.16.840.1.113883.10.20.15.3.28)
14. **MAY** contain zero or more [0..*] **entry**, such that
    a. Contains **@typeCode="**DRIV" *DRIV (is derived from)*
    b. Contains exactly one [1..1] *AcuteHepatitisBActualBloodAndOrBodyFluidExposureObservation* (templateId: 2.16.840.1.113883.10.20.15.3.26)
15. **SHOULD** satisfy: Contains a case-insensitive language-insensitive string containing 'social history'. (CONF-236)
    • UNIMPLEMENTABLE
16. Marital status **SHOULD** be represented as ClinicalDocument / recordTarget / patientRole / patient / maritalStatusCode. Additional information **MAY** be represented as social history observations (CONF-250)
    • [OCL]: self.getClinicalDocument().recordTarget->select(r | not r.patientRole.patient.maritalStatusCode.hasContent())->isEmpty()
17. Religious affiliation **SHOULD** be represented as ClinicalDocument / recordTarget / patientRole / patient / religiousAffiliationCode. Additional information **MAY** be represented as social history observations (CONF-251)
    • [OCL]: self.getClinicalDocument().recordTarget->select(r | not r.patientRole.patient.religiousAffiliationCode.hasContent())->isEmpty()
18. A patients race **SHOULD** be represented as ClinicalDocument / recordTarget / patientRole / patient / raceCode. Additional information **MAY** be represented as social history observations (CONF-252)
    • [OCL]: self.getClinicalDocument().recordTarget->select(r | not r.patientRole.patient.raceCode.hasContent())->isEmpty()

19. The value for ClinicalDocument / recordTarget / patientRole / patient / raceCode **MAY** be selected from codeSystem 2.16.840.1.113883.5.104 (Race) (CONF-253)

- ```
  [OCL]: self.getClinicalDocument().recordTarget->forAll(r |
   r.patientRole.patient.raceCode.codeSystem = '2.16.840.1.113883.5.104' )
  ```

20. A patients ethnicity **SHOULD** be represented as ClinicalDocument / recordTarget / patientRole / patient / ethnicGroupCode. Additional information **MAY** be represented as social history observations. (CONF-254)

- ```
  [OCL]: self.getClinicalDocument().recordTarget->select(r | not
   r.patientRole.patient.ethnicGroupCode.hasContent() )->isEmpty()
  ```

21. The value for ClinicalDocument / recordTarget / patientRole / patient / ethnicGroupCode **MAY** be selected from codeSystem 2.16.840.1.113883.5.50 (Ethnicity). (CONF-255)

- ```
  [OCL]: self.getClinicalDocument().recordTarget->forAll(r
   | r.patientRole.patient.ethnicGroupCode.codeSystem =
   '2.16.840.1.113883.5.50' )
  ```

Acute Hepatitis B Social History Section example

Chapter

4

CLINICAL STATEMENT TEMPLATES

Topics:

This section of the Implementation Guide details the clinical statement entries referenced in the document section templates. The clinical statement entry templates are arranged alphabetically.

AcuteHepatitisBActualBloodAndOrBodyFluidExposureObservation

[Observation: templateId `2.16.840.1.113883.10.20.15.3.26`]

1. **SHALL** contain exactly one [1..1] **@classCode**=`"OBS"` *Observation* (CodeSystem: `2.16.840.1.113883.5.6 HL7ActClass`)
2. **SHALL** contain exactly one [1..1] **@moodCode**=`"EVN"` *Event* (CodeSystem: `2.16.840.1.113883.5.1001 HL7ActMood`)
3. **SHALL** contain at least one [1..*] **id**
4. **SHALL** contain exactly one [1..1] **code**, which **SHALL** be selected from ValueSet `2.16.840.1.114222.4.11.3224` *PHVS_BloodOrBodyFluidExposureEvent_CDC* **DYNAMIC** (CONF:1067)
5. **SHALL** contain exactly one [1..1] **statusCode/@code**=`"completed"` (CodeSystem: `2.16.840.1.113883.5.14 ActStatus`) (CONF:1068)
6. Contains exactly one [1..1] **value**

AcuteHepatitisBActualBloodAndOrBodyFluidExposureObservation example

Acute Hepatitis B Case Observation

[Observation: templateId `2.16.840.1.113883.10.20.15.3.30`]

1. **SHALL** conform to *CCD Problem Observation* template (templateId: `2.16.840.1.113883.10.20.1.28`)
2. **SHALL** conform to *PHCR Case Observation* template (templateId: `2.16.840.1.113883.10.20.15.3.54`)
3. **SHALL** contain exactly one [1..1] **@classCode**=`"OBS"` *Observation* (CodeSystem: `2.16.840.1.113883.5.6 HL7ActClass`) (CONF:1868)
4. **SHALL** contain exactly one [1..1] **@moodCode**=`"EVN"` *Event* (CodeSystem: `2.16.840.1.113883.5.1001 HL7ActMood`) (CONF:1869)
5. **MAY** contain zero or more [0..*] **id** (CONF:1870)
6. **SHALL** contain exactly one [1..1] **code/@code**=`"ASSERTION"` (CodeSystem: `2.16.840.1.113883.5.4 HL7ActCode`) (CONF:1871)
7. **SHALL** contain exactly one [1..1] **statusCode/@code**=`"completed"` (CodeSystem: `2.16.840.1.113883.5.14 ActStatus`) (CONF:1872)
8. **SHOULD** contain zero or one [0..1] **effectiveTime** (CONF:1873)
9. **SHALL** contain exactly one [1..1] **value**, which **SHALL** be selected from ValueSet `2.16.840.1.114222.4.11.3221` *PHVS_DiseaseType_AcuteHepatitisB* **DYNAMIC**, where its data type is CD (CONF:1874, CONF:1152)
10. **MAY** contain zero or one [0..1] **entryRelationship** (CONF-162), such that
    a. Contains **@typeCode=**`"REFR"` *REFR (refers to)*
    b. Contains exactly one [1..1] *Problem Status Observation* (templateId: `2.16.840.1.113883.10.20.1.50`)
11. **MAY** contain zero or one [0..1] **entryRelationship** (CONF-165), such that
    a. Contains **@typeCode=**`"REFR"` *REFR (refers to)*
    b. Contains exactly one [1..1] *Problem Health Status Observation* (templateId: `2.16.840.1.113883.10.20.1.51`)
12. **MAY** contain zero or one [0..1] **entryRelationship** (CONF-160), such that
    a. Contains **@typeCode=**`"SUBJ"` *SUBJ (has subject)*
    b. Contains exactly one [1..1] *Age Observation* (templateId: `2.16.840.1.113883.10.20.1.38`)
13. **SHOULD** contain zero or one [0..1] **entryRelationship** (CONF:1884, CONF:1885, CONF:1886), such that

    a. Contains **@typeCode="**REFR" *REFR (refers to)*

    b. Contains exactly one [1..1] *CCD Problem Status Observation* (templateId: 2.16.840.1.113883.10.20.1.50)

14. **SHALL** contain zero or more [0..*] **entryRelationship**, such that

    a. Contains **@typeCode="**MFST" *MFST (is manifestation of)*

    b. Contains exactly one [1..1] *Acute Hepatitis B Signs And Symptoms Observation* (templateId: 2.16.840.1.113883.10.20.15.3.22)

15. **SHALL** contain one or more sources of information. (CONF-161)

- ```
  [OCL]: not self.informant->isEmpty()
  or not self.getSection().informant->isEmpty()
  or not self.getClinicalDocument().informant->isEmpty()
  or self.reference->exists(ref : cda::Reference | ref.typeCode =
   vocab::x_ActRelationshipExternalReference::XCRPT)
  or (self.entryRelationship->exists(rel : cda::EntryRelationship |
     rel.typeCode = vocab::x_ActRelationshipEntryRelationship::REFR
     and rel.observation.code.code = '48766-0'))
  ```

16. **MAY** contain exactly one Patient Awareness (CONF-180)

- ```
  [OCL]: self.participant->one(partic : cda::Participant2 |
   partic.oclIsKindOf(ccd::PatientAwareness))
  ```

17. **SHOULD** contain [0..1] effectiveTime/low (CONF:1873)

- ```
  [OCL]: self.effectiveTime->exists(time : datatypes::IVL_TS | not
   time.low.oclIsUndefined())
  ```

18. **SHOULD** contain [0..1] author (CONF:1875)

- ```
  [OCL]: self.author->exists(author : cda::Author | not
   author.oclIsUndefined())
  ```

19. Author **SHALL** contain [1..1] time (CONF:1876)

20. Author **SHALL** contain [1..1] assignedAuthor (CONF:1877)

- ```
  [OCL]: self.author.assignedAuthor->exists(assignedAuthor :
   cda::AssignedAuthor | not assignedAuthor.oclIsUndefined())
  ```

21. Author / AssignedAuthor **SHALL** contain [1..*] id (CONF:1878)

22. Author / AssignedAuthor **MAY** contain [0..*] addr (CONF:1879)

23. Author / AssignedAuthor **MAY** contain [0..*] telecom (CONF:1880)

24. Author / AssignedAuthor **MAY** contain [0..1] assignedPerson (CONF:1881)

25. Author / AssignedAuthor / Person **MAY** contain [0..1] name (CONF:1882)

26. Author / AssignedAuthor **MAY** contain [0..1] representedOrganization (CONF:1883)

Acute Hepatitis B Case Observation example

Acute Hepatitis B Immunization Activity

[SubstanceAdministration: templateId 2.16.840.1.113883.10.20.15.3.25]

1. **SHALL** conform to *CCD Medication Activity* template (templateId: 2.16.840.1.113883.10.20.1.24)
2. Contains exactly one [1..1] **@classCode**="SBADM" (CodeSystem: 2.16.840.1.113883.5.6 HL7ActClass), where its data type is ActClass
3. Contains exactly one [1..1] **@moodCode**, where its data type is x_DocumentSubstanceMood
4. **SHALL** contain at least one [1..*] **id** (CONF-306)
5. **SHOULD** contain exactly one [1..1] **statusCode** (CONF-307)
6. **SHOULD** contain at least one [1..*] **effectiveTime** (CONF-308)

- Used to indicate the actual or intended start and stop date of a medication, and the frequency of administration.

7. **SHOULD** contain exactly one [1..1] **routeCode** (CodeSystem: `2.16.840.1.113883.5.112` HL7 `RouteOfAdministration`) (CONF-309, CONF-310)
8. **SHOULD** contain zero or one [0..1] **doseQuantity**
9. **SHOULD** contain zero or one [0..1] **rateQuantity**
10. **MAY** contain exactly one [1..1] **maxDoseQuantity** (CONF-312)

    - represents a maximum dose limit

11. Contains exactly one [1..1] **consumable**, where its type is *Consumable*
12. **MAY** contain exactly one [1..1] **entryRelationship** (CONF-338, CONF-339), such that

    a. Contains **@typeCode="**SUBJ" *SUBJ (has subject)*
    b. Contains exactly one [1..1] *Medication Series Number Observation* (templateId: `2.16.840.1.113883.10.20.1.46`)

13. **MAY** contain exactly one [1..1] **entryRelationship** (CONF-350), such that

    a. Contains exactly one [1..1] *Medication Status Observation* (templateId: `2.16.840.1.113883.10.20.1.47`)

14. **MAY** contain at least one [1..*] **entryRelationship** (CONF-330, CONF-333), such that

    a. Contains **@typeCode="**SUBJ" *SUBJ (has subject)*
    b. Contains exactly one [1..1] *Patient Instruction* (templateId: `2.16.840.1.113883.10.20.1.49`)

15. **MAY** contain at least one [1..*] **performer** (CONF-313), such that

    - Indicates the person administering a substance.

16. **MAY** contain at least one [1..*] **entryRelationship** (CONF-348, CONF-349), such that

    a. Contains **@typeCode="**CAUS" *CAUS (is etiology for)*
    b. Contains exactly one [1..1] *Reaction Observation* (templateId: `2.16.840.1.113883.10.20.1.54`)

17. **MAY** contain at least one [1..*] **participant** (CONF-368), such that

    a. Contains exactly one [1..1] *Product Instance* (templateId: `2.16.840.1.113883.10.20.1.52`)

18. **SHALL** satisfy: Value for moodCode is "EVN" or "INT" 2.16.840.1.113883.5.1001 ActMood STATIC (CONF-305)

    - ```
      [OCL]: self.moodCode=vocab::x_DocumentSubstanceMood::EVN or
       self.moodCode=vocab::x_DocumentSubstanceMood::INT
      ```

19. **SHOULD** satisfy: Contains exactly one doseQuantity or rateQuantity. (CONF-311)

    - ```
      [OCL]: not self.doseQuantity.oclIsUndefined() or not
       self.rateQuantity.oclIsUndefined()
      ```

20. **MAY** satisfy: Has one or more associated consents, represented in the CCD Header as ClinicalDocument / authorization / consent. (CONF-314)

    - ```
      [OCL]: self.getClinicalDocument().authorization->size() > 0 and
       self.getClinicalDocument().authorization.consent->size() > 0
      ```

21. **SHALL** satisfy: Contains one or more sources of information. (CONF-315)

    - ```
      [OCL]: not self.informant->isEmpty()
      or not self.getSection().informant->isEmpty()
      or not self.getClinicalDocument().informant->isEmpty()
      or self.reference->exists(ref : cda::Reference | ref.typeCode =
       vocab::x_ActRelationshipExternalReference::XCRPT)
      or (self.entryRelationship->exists(rel : cda::EntryRelationship |
         rel.typeCode = vocab::x_ActRelationshipEntryRelationship::REFR
         and rel.observation.code.code = '48766-0'))
      ```

22. **MAY** satisfy: Contains one or more precondition / Criterion, to indicate that the medication is administered only when the associated (coded or free text) criteria are met. (CONF-327)

    - Indicates that the medication is administered only when the associated (coded or free text) criteria are met.
    - ```
      [OCL]: self.precondition->exists(precondition : cda::Precondition | not
       precondition.criterion.oclIsUndefined())
      ```

23. **MAY** satisfy: Contains one or more entryRelationship, where the value for @typeCode is "RSON" "Has reason" 2.16.840.1.113883.5.1002 ActRelationshipType STATIC. (CONF-328)

    - The target of the relationship represents the indication for the activity.

    - `[OCL]: self.entryRelationship->exists(entryRel : cda::EntryRelationship | entryRel.typeCode = vocab::x_ActRelationshipEntryRelationship::RSON)`

24. **SHALL** satisfy: entryRelationship / @typeCode="RSON" in a medication activity has a target of problem act (templateId 2.16.840.1.113883.10.20.1.27), problem observation (templateId 2.16.840.1.113883.10.20.1.28), or some other clinical statement. (CONF-329)

    - `[OCL]:`
      `self.getEntryRelationshipTargets(vocab::x_ActRelationshipEntryRelationship::RSON, cda::ClinicalStatement)->forAll(target :`

      `cda::ClinicalStatement | not target.oclIsUndefined() and (target.oclIsKindOf(ccd::ProblemAct) or target.oclIsKindOf(ccd::ProblemObservation)))`

25. **SHALL** satisfy: Contains exactly one consumable, the target of which is a Product template. (CONF-354)

    - `[OCL]: self.consumable.manufacturedProduct.oclIsKindOf(ccd::Product)`

26. **SHALL** contain [1..1] consumable (CONF:1052), which a. **SHALL** contain [1..1] Acute hepatitis B immunization product (templateId:2.16.840.1.113883.10.20.15.3.24) (CONF:1053

Acute Hepatitis B Immunization Activity example

Acute Hepatitis B Possible Exposure Location And Type Act

[Act: templateId `2.16.840.1.113883.10.20.15.3.27`]

1. **SHALL** contain exactly one [1..1] **@classCode**="ACT" *Act* (CodeSystem: `2.16.840.1.113883.5.6` HL7ActClass)
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: `2.16.840.1.113883.5.1001` HL7ActMood)
3. **SHALL** contain exactly one [1..1] **code/@code**="413350009" (CodeSystem: `2.16.840.1.113883.6.96` SNOMEDCT)
4. **SHALL** contain exactly one [1..1] **statusCode**
5. 5. **SHALL** contain [1..*] participant (CONF:1083) (specialized branch), which a. **SHALL** contain [1..1] @typeCode="LOC" Location (CodeSystem: 2.16.840.1.113883.5.90 HL7ParticipationType) STATIC (CONF:1084) b. **SHOULD** contain [0..1] time (CONF:1085) c. **SHALL** contain [1..1] participantRole (CONF:1086), which i. **SHALL** contain [1..1] @classCode="LOCE" Located entity (CodeSystem: 2.16.840.1.113883.5.110 HL7RoleClass) STATIC (CONF:1087) ii. **SHOULD** contain [0..*] addr (CONF:1088) iii. **SHOULD** contain [0..*] telecom (CONF:1089) iv. **SHOULD** contain [0..1] playingEntity (CONF:1090), which if present 1. **SHALL** contain [1..1] @classCode="PLC" Place (CodeSystem: 2.16.840.1.113883.5.41 HL7EntityClass) STATIC (CONF:1091) 2. **SHALL** contain [1..1] code/@code, which **SHALL** be selected from ValueSet 2.16.840.1.114222.4.11.3209 Exposure Location DYNAMIC (CONF:1092)
6. 6. **SHOULD** contain [0..*] participant (CONF:1565) (specialized branch), which if present a. **SHALL** contain [1..1] @typeCode="DIR" Direct target (CodeSystem: 2.16.840.1.113883.5.90 HL7ParticipationType) STATIC (CONF:1566) b. **SHOULD** contain [0..1] time (CONF:1567) c. **SHALL** contain [1..1] participantRole (CONF:1568), which i. **SHALL** contain [1..1] @classCode="EXPR" Exposed entity (CodeSystem: 2.16.840.1.113883.5.110 HL7RoleClass) STATIC (CONF:1569) ii. **SHALL** contain [1..1] scopingEntity (CONF:1852) iii. **SHALL** contain [1..1] code/@code, which **SHALL** be selected from ValueSet 2.16.840.1.114222.4.11.3210 Contact Type (Hepatitis B) DYNAMIC (CONF:1572)
7. 3. **SHALL** contain [1..1] code/@code="413350009" Finding with explicit context (CodeSystem: 2.16.840.1.113883.6.96 SNOMEDCT) STATIC (CONF:1076), which a. **SHALL** contain [1..1] qualifier (CONF:1077) (specialized branch), which i. **SHALL** contain [1..1] name/@code="246090004" Associated

finding (CodeSystem: 2.16.840.1.113883.6.96 SNOMEDCT) STATIC (CONF:1078) ii. **SHALL** contain [1..1] value/@code="281638009" Hepatitis B contact (CodeSystem: 2.16.840.1.113883.6.96 SNOMEDCT) STATIC (CONF:1079) b. **SHALL** contain [1..1] qualifier (CONF:1080) (specialized branch), which i. **SHALL** contain [1..1] name/@code="408729009" Finding context (CodeSystem: 2.16.840.1.113883.6.96 SNOMEDCT) STATIC (CONF:1081) ii. **SHALL** contain [1..1] value/@code="410590009" Known possible (CodeSystem: 2.16.840.1.113883.6.96 SNOMEDCT) STATIC (CONF:1082)

Acute Hepatitis B Possible Exposure Location And Type Act example

Acute Hepatitis B Result Observation

[Observation: templateId 2.16.840.1.113883.10.20.15.3.34]

1. **SHALL** conform to *CCD Result Observation* template (templateId: 2.16.840.1.113883.10.20.1.31)
2. **SHALL** conform to *PHCR Result Observation* template (templateId: 2.16.840.1.113883.10.20.15.3.58)
3. **SHALL** contain exactly one [1..1] **@classCode**="OBS" *Observation* (CodeSystem: 2.16.840.1.113883.5.6 HL7ActClass) (CONF:1967)
4. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood) (CONF-408)
5. **SHALL** contain at least one [1..*] **id** (CONF-409)
6. **SHALL** contain exactly one [1..1] **code**, which **SHALL** be selected from ValueSet 2.16.840.1.114222.4.11.3043 PHVS_LabTestResultName_Hepatitis **STATIC** 1 (CONF-412, CONF:1236)
7. **SHALL** contain exactly one [1..1] **statusCode/@code**="completed" (CodeSystem: 2.16.840.1.113883.5.14 ActStatus) (CONF:1971)
8. **SHOULD** contain exactly one [1..1] **effectiveTime** (CONF-411)

   • Represents the biologically relevant time (e.g. time the specimen was obtained from the patient).
9. **SHALL** contain exactly one [1..1] **value** (CONF-416)
10. **SHOULD** contain zero or more [0..*] **interpretationCode**, which **SHOULD** be selected from ValueSet 2.16.840.1.113883.1.11.78 *PHVS_ObservationInterpretation_HL7_V3* **DYNAMIC** (CONF-418, CONF:1240)
11. **MAY** contain zero or one [0..1] **methodCode** (CONF-414)

   • Included if the method isn't inherent in code or if there is a need to further specialize the method in code.
12. **MAY** contain zero or more [0..*] **entryRelationship** (CONF:1990), such that

   a. Contains **@typeCode="**REFR" *REFR (refers to)*
   b. Contains exactly one [1..1] *Specimen Collection Procedure* (templateId: 2.16.840.1.113883.10.20.15.3.2)
13. **MAY** contain zero or more [0..*] **entryRelationship** (CONF:1993), such that

   a. Contains **@typeCode="**COMP" *COMP (has component)*
   b. Contains exactly one [1..1] *Susceptibility Result* (templateId: 2.16.840.1.113883.10.20.15.3.10)
14. The value for 'code' **SHOULD** be selected from LOINC (codeSystem 2.16.840.1.113883.6.1) or SNOMED CT (codeSystem 2.16.840.1.113883.6.96), and **MAY** be selected from CPT-4 (codeSystem 2.16.840.1.113883.6.12). (CONF-413)

   • [OCL]: self.code.codeSystem = '2.16.840.1.113883.6.1' xor self.code.codeSystem = '2.16.840.1.113883.6.96' xor self.code.codeSystem = '2.16.840.1.113883.6.12'
15. The methodCode **SHALL NOT** conflict with the method inherent in code (CONF-415)

   • UNIMPLEMENTABLE

16. Where value is a physical quantity, the unit of measure **SHALL** be expressed using a valid Unified Code for Units of Measure (UCUM) expression. (CONF-417)

    - UNIMPLEMENTABLE

17. **SHOULD** satisfy: Contain one or more referenceRange to show the normal range of values for the observation result (CONF-419)

    ```
    [OCL]: not self.referenceRange->isEmpty()
    ```

18. **SHALL NOT** contain referenceRange / observationRange / code, as this attribute is not used by the HL7 Clinical Statement or Lab Committee models. (CONF-420)

    ```
    [OCL]: self.referenceRange->forAll(range : cda::ReferenceRange |
     range.observationRange.code.code.oclIsUndefined())
    ```

19. **SHALL** satisfy: Contains one or more sources of information. (CONF-421)

    ```
    [OCL]: not self.informant->isEmpty()
    or not self.getSection().informant->isEmpty()
    or not self.getClinicalDocument().informant->isEmpty()
    or self.reference->exists(ref : cda::Reference | ref.typeCode =
     vocab::x_ActRelationshipExternalReference::XCRPT)
    or (self.entryRelationship->exists(rel : cda::EntryRelationship |
       rel.typeCode = vocab::x_ActRelationshipEntryRelationship::REFR
       and rel.observation.code.code = '48766-0'))
    ```

Acute Hepatitis B Result Observation example

Acute Hepatitis B Risk Associated Procedure

[Procedure: templateId `2.16.840.1.113883.10.20.15.3.31`]

1. **SHALL** contain exactly one [1..1] **@classCode**="PROC" (CodeSystem: `2.16.840.1.113883.5.6` HL7ActClass) (CONF:1174)
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: `2.16.840.1.113883.5.1001` HL7ActMood) (CONF:1175)
3. **SHALL** contain exactly one [1..1] **code**, which **SHALL** be selected from ValueSet `2.16.840.1.114222.4.11.3226` *PHVS_BloodorBodyFluidExposureRelatedProcedure_CDC* **DYNAMIC** (CONF:1176)
4. **SHALL** contain exactly one [1..1] **statusCode/@code**="completed" *completed* (CodeSystem: `2.16.840.1.113883.5.14` ActStatus) (CONF:1177)
5. **SHOULD** contain zero or one [0..1] **effectiveTime**

Acute Hepatitis B Risk Associated Procedure example

Acute Hepatitis B Signs And Symptoms Observation

[Observation: templateId `2.16.840.1.113883.10.20.15.3.22`]

1. **SHALL** conform to *PHCR Signs And Symptoms Observation* template (templateId: `2.16.840.1.113883.10.20.15.3.53`)
2. **SHALL** contain exactly one [1..1] **@classCode**="OBS" *Observation* (CodeSystem: `2.16.840.1.113883.5.6` HL7ActClass) (CONF:1861)
3. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: `2.16.840.1.113883.5.1001` HL7ActMood) (CONF:1862)
4. **SHALL** contain exactly one [1..1] **@negationInd** (CONF:1863)

5. **SHALL** contain exactly one [1..1] **code/@code**="ASSERTION" (CodeSystem: 2.16.840.1.113883.5.4 HL7ActCode) (CONF:1864)
6. **SHALL** contain exactly one [1..1] **statusCode/@code**="completed" (CodeSystem: 2.16.840.1.113883.5.14 ActStatus) (CONF:1865)
7. **SHOULD** contain zero or one [0..1] **effectiveTime** (CONF:1866)
8. **SHALL** contain exactly one [1..1] **value**, which **SHALL** be selected from ValueSet 2.16.840.1.114222.4.11.3213 *PHVS_SignsSymptoms_AcuteHepatitisB* **DYNAMIC**, where its data type is CD (CONF:1867, CONF:988)
9. PHCR Case Observation **SHOULD** contain zero or more [0..*] entryRelationship (CONF:1887, CONF:1888, CONF:1890), such that Contains @typeCode="MFST" MFST (is manifestation of), such that Contains @inversionInd="true", and Contains exactly one [1..1] Signs And Symptoms Observation (templateId: 2.16.840.1.113883.10.20.15.3.53) (CONF:1889)

Acute Hepatitis B Signs And Symptoms Observation example

Acute Hepatitis B Socio Behavioral Boolean Risk Factor Observation

[Observation: templateId 2.16.840.1.113883.10.20.15.3.28]

1. **SHALL** conform to *CCD Social History Observation* template (templateId: 2.16.840.1.113883.10.20.1.33)
2. **SHALL** contain exactly one [1..1] **@classCode**="OBS" *Observation* (CodeSystem: 2.16.840.1.113883.5.6 HL7ActClass) (CONF-238)
3. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood) (CONF-239)
4. **SHALL** contain exactly one [1..1] **@negationInd** (CONF:1103)
5. **SHALL** contain at least one [1..*] **id** (CONF-240)
6. **SHALL** contain exactly one [1..1] **code/@code**="ASSERTION" (CodeSystem: 2.16.840.1.113883.5.4 HL7ActCode)
7. **SHALL** contain exactly one [1..1] **statusCode/@code**="completed" (CodeSystem: 2.16.840.1.113883.5.14 ActStatus) (CONF-241, CONF-242)
8. **SHOULD** contain zero or one [0..1] **effectiveTime**
9. **SHALL** contain exactly one [1..1] **value**, which **SHALL** be selected from ValueSet 2.16.840.1.114222.4.11.3228 *PHVS_SocioBehavioralRiskFactor_CDC* **DYNAMIC**, where its data type is CD
10. **MAY** contain zero or one [0..1] **entryRelationship** (CONF-246), such that

    a. Contains exactly one [1..1] *Social History Status Observation* (templateId: 2.16.840.1.113883.10.20.1.56)
11. **MAY** contain zero or one [0..1] **entryRelationship** (CONF-249), such that

    a. Contains exactly one [1..1] *Episode Observation* (templateId: 2.16.840.1.113883.10.20.1.41)
12. The value for Observation / code in a social history observation **SHOULD** be selected from LOINC (codeSystem 2.16.840.1.113883.6.1) or SNOMED CT (codeSystem 2.16.840.1.113883.6.96), or **MAY** be selected from ValueSet 2.16.840.1.1.11.20.18 SocialHistoryTypeCode STATIC 20061017 (CONF-243)

    - [OCL]: self.code.codeSystem = '2.16.840.1.113883.6.1' or self.code.codeSystem = '2.16.840.1.113883.6.96' or self.code.codeSystem = '2.16.840.1.113883.1.11.20.18'
13. Observation / value can be any datatype. Where Observation / value is a physical quantity, the unit of measure **SHALL** be expressed using a valid Unified Code for Units of Measure (UCUM) expression (CONF-244)

    - UNIMPLEMENTABLE
14. **SHALL** satisfy: Contains one or more sources of information (CONF-245)

- UNIMPLEMENTABLE

Acute Hepatitis B Socio Behavioral Boolean Risk Factor Observation example

Acute Hepatitis B Therapeutic Regimen Act

[Act: templateId `2.16.840.1.113883.10.20.15.3.23`]

1. **SHALL** conform to *PHCR Therapeutic Regimen Act* template (templateId: `2.16.840.1.113883.10.20.15.3.57`)
2. **SHALL** contain exactly one [1..1] **@classCode**="ACT" *Act* (CodeSystem: `2.16.840.1.113883.5.6 HL7ActClass`) (CONF:1940)
3. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: `2.16.840.1.113883.5.1001 HL7ActMood`) (CONF:1941)
4. **SHALL** contain exactly one [1..1] **@negationInd** (CONF:1942)
5. **SHALL** contain exactly one [1..1] **code/@code**="133877004" *Therapeutic regimen* (CodeSystem: `2.16.840.1.113883.6.96 SNOMEDCT`) (CONF:1943)
6. **SHALL** contain exactly one [1..1] **statusCode/@code**="completed" (CodeSystem: `2.16.840.1.113883.5.14 ActStatus`) (CONF:1944)
7. **SHOULD** contain zero or more [0..*] **entryRelationship** (COMP:1953, COMP:1954, COMP:1955), such that
   a. Contains **@typeCode="**COMP" *COMP (has component)*
   b. Contains exactly one [1..1] *Treatment Given Substance Administration* (templateId: `2.16.840.1.113883.10.20.15.3.55`)
8. **MAY** contain zero or more [0..*] **entryRelationship** (COMP:1956, COMP:1957, COMP:1958), such that
   a. Contains **@typeCode="**COMP" *COMP (has component)*
   b. Contains exactly one [1..1] *Treatment Not Given Substance Administration* (templateId: `2.16.840.1.113883.10.20.15.3.56`)
9. **SHALL**
10. 7. **SHALL** contain [1..1] entryRelationship (CONF:994) (specialized branch), which a. **SHALL** contain [1..1] @typeCode="REFR" Refers to (CodeSystem: 2.16.840.1.113883.5.1002 HL7ActRelationshipType) STATIC (CONF:995) b. **SHALL** contain [1..1] observation (CONF:996), which i. **SHALL** contain [1..1] @classCode="OBS" Observation (CodeSystem: 2.16.840.1.113883.5.6 HL7ActClass) STATIC (CONF:997) ii. **SHALL** contain [1..1] @moodCode="EVN" Event (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood) STATIC (CONF:998) iii. observation/id **SHALL** be present, and **SHALL** equal Hep B case observation's observation/id (CONF:999). iv. **SHALL** contain [1..1] code/@code="ASSERTION" (CodeSystem: 2.16.840.1.113883.5.4 HL7ActCode) STATIC (CONF:1000) v. **SHALL** contain [1..1] value/@code="76795007" Acute hepatitis B (CodeSystem: 2.16.840.1.113883.6.96 SNOMEDCT) STATIC (CONF:1001)

Acute Hepatitis B Therapeutic Regimen Act example

Job Related Body Fluid Exposure Risk Frequency Observation

[Observation: templateId `2.16.840.1.113883.10.20.15.3.29`]

1. **SHALL** contain exactly one [1..1] **@classCode**="OBS" *Observation* (CodeSystem: `2.16.840.1.113883.5.6 HL7ActClass`)
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: `2.16.840.1.113883.5.1001 HL7ActMood`)

3. **SHALL** contain exactly one [1..1] **code/@code**="55212-5" *Occupation related direct blood or body fluid exposure frequencyOccupation related direct blood or body fluid exposure frequency* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:1111)

4. **SHALL** contain exactly one [1..1] **statusCode/@code**="completed" *completed* (CodeSystem: 2.16.840.1.113883.5.14 ActStatus) (CONF:1112)

5. **SHALL** contain exactly one [1..1] **value**, which **SHALL** be selected from ValueSet 2.16.840.1.114222.4.11.3225 *PHVS_BloodOrBodyFluidExposureFrequency_CDC* **DYNAMIC**, where its data type is CD (CONF:1114)

Job Related Body Fluid Exposure Risk Frequency Observation example

STD History Observation

[Observation: templateId 2.16.840.1.113883.10.20.15.3.33]

1. **SHALL** conform to *CCD Problem Observation* template (templateId: 2.16.840.1.113883.10.20.1.28)

2. **SHALL** contain exactly one [1..1] **@classCode**="OBS" *Observation* (CodeSystem: 2.16.840.1.113883.5.6 HL7ActClass) (CONF:1199)

3. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood) (CONF-155, CONF:1200)

4. **MAY** contain zero or one [0..1] **id** (CONF:1104, CONF:1201)

5. **SHALL** contain exactly one [1..1] **code/@code**="ASSERTION" *ASSERTION* (CodeSystem: 2.16.840.1.113883.5.6 HL7ActClass) (CONF-159, CONF:1202)

6. **SHALL** contain exactly one [1..1] **statusCode/@code**="completed" (CodeSystem: 2.16.840.1.113883.5.14 ActStatus) (CONF-156, CONF-157, CONF:1203)

7. **SHOULD** contain zero or one [0..1] **effectiveTime** (CONF-158, CONF:1204)

8. **SHALL** contain exactly one [1..1] **value**, which **SHALL** be selected from ValueSet 2.16.840.1.114222.4.11.3231 Disease Type (STD) **STATIC** 1, where its data type is CD (CONF:1108)

9. **MAY** contain zero or one [0..1] **entryRelationship** (CONF-162), such that

   a. Contains **@typeCode="**REFR" *REFR (refers to)*
   b. Contains exactly one [1..1] *Problem Status Observation* (templateId: 2.16.840.1.113883.10.20.1.50)

10. **MAY** contain zero or one [0..1] **entryRelationship** (CONF-165), such that

   a. Contains **@typeCode="**REFR" *REFR (refers to)*
   b. Contains exactly one [1..1] *Problem Health Status Observation* (templateId: 2.16.840.1.113883.10.20.1.51)

11. **MAY** contain zero or one [0..1] **entryRelationship** (CONF-160), such that

   a. Contains **@typeCode="**SUBJ" *SUBJ (has subject)*
   b. Contains exactly one [1..1] *Age Observation* (templateId: 2.16.840.1.113883.10.20.1.38)

12. **MAY** contain zero or one [0..1] **entryRelationship** (CONF-162, CONF:1206), such that

   a. Contains **@typeCode="**REFR" *REFR (refers to)*
   b. Contains exactly one [1..1] *CCD Problem Status Observation* (templateId: 2.16.840.1.113883.10.20.1.50)

13. **SHALL** contain one or more sources of information. (CONF-161)

   - ```
     [OCL]: not self.informant->isEmpty()
     or not self.getSection().informant->isEmpty()
     or not self.getClinicalDocument().informant->isEmpty()
     or self.reference->exists(ref : cda::Reference | ref.typeCode =
      vocab::x_ActRelationshipExternalReference::XCRPT)
     or (self.entryRelationship->exists(rel : cda::EntryRelationship |
     ```

```
            rel.typeCode = vocab::x_ActRelationshipEntryRelationship::REFR
            and rel.observation.code.code = '48766-0'))
```

14. **MAY** contain exactly one Patient Awareness (CONF-180)

- [OCL]: self.participant->one(partic : cda::Participant2 |
  partic.oclIsKindOf(ccd::PatientAwareness))

15. 0. **SHOULD** contain [0..1] entryRelationship (CONF:1209) (specialized branch), which if present a. **SHALL** contain [1..1] @typeCode="REFR" Refers to (CodeSystem: 2.16.840.1.113883.5.1002 HL7ActRelationshipType) STATIC (CONF:1210) b. **SHALL** contain [1..1] act (CONF:1217), which i. **SHALL** contain [1..1] @classCode="ACT" (CodeSystem: 2.16.840.1.113883.5.6 HL7ActClass) STATIC (CONF:1211) ii. **SHALL** contain [1..1] @moodCode="EVN" Event (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood) STATIC (CONF:1212) iii. **SHALL** contain @negationInd (CONF:1213) iv. **SHALL** contain [1..1] code/ @code="133877004" Therapeutic regimen (CodeSystem: 2.16.840.1.113883.6.96 SNOMEDCT) STATIC (CONF:1214) v. **SHALL** contain [1..1] statusCode/@code="completed" (CodeSystem: 2.16.840.1.113883.5.14 HL7ActStatus) STATIC (CONF:1215) vi. **SHOULD** contain [0..1] effectiveTime (CONF:1216)

STD History Observation example

Viral Hepatitis History Observation

[Observation: templateId `2.16.840.1.113883.10.20.15.3.32`]

1. **SHALL** conform to *CCD Problem Observation* template (templateId: `2.16.840.1.113883.10.20.1.28`)
2. Contains exactly one [1..1] **@classCode**="OBS" *Observation* (CodeSystem: `2.16.840.1.113883.5.6` HL7ActClass)
3. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: `2.16.840.1.113883.5.1001` HL7ActMood) (CONF-155)
4. **MAY** contain zero or more [0..*] **id**
5. **SHALL** contain exactly one [1..1] **code/@code**="ASSERTION" *ASSERTION* (CodeSystem: `2.16.840.1.113883.5.4` HL7ActCode) (CONF-159, CONF:1192)
6. **SHALL** contain exactly one [1..1] **statusCode/@code**="completed" (CodeSystem: `2.16.840.1.113883.5.14` ActStatus) (CONF-156, CONF-157)
7. **SHOULD** contain exactly one [1..1] **effectiveTime** (CONF-158)

- Indicates the biological timing of condition (e.g. the time the condition started, the onset of the illness or symptom, the duration of a condition).

8. **SHALL** contain exactly one [1..1] **value**, which **SHALL** be selected from ValueSet `2.16.840.1.114222.4.11.3230` *PHVS_DiseaseType_Hepatitis* **DYNAMIC**, where its data type is CD (CONF:1108, CONF:1195)
9. **MAY** contain zero or one [0..1] **entryRelationship** (CONF-162), such that

    a. Contains **@typeCode="**REFR" *REFR (refers to)*
    b. Contains exactly one [1..1] *Problem Status Observation* (templateId: `2.16.840.1.113883.10.20.1.50`)

10. **MAY** contain zero or one [0..1] **entryRelationship** (CONF-165), such that

    a. Contains **@typeCode="**REFR" *REFR (refers to)*
    b. Contains exactly one [1..1] *Problem Health Status Observation* (templateId: `2.16.840.1.113883.10.20.1.51`)

11. **MAY** contain zero or one [0..1] **entryRelationship** (CONF-160), such that

    a. Contains **@typeCode="**SUBJ" *SUBJ (has subject)*
    b. Contains exactly one [1..1] *Age Observation* (templateId: `2.16.840.1.113883.10.20.1.38`)

12. **SHALL** contain one or more sources of information. (CONF-161)

- [OCL]: not self.informant->isEmpty()

```
or not self.getSection().informant->isEmpty()
or not self.getClinicalDocument().informant->isEmpty()
or self.reference->exists(ref : cda::Reference | ref.typeCode =
 vocab::x_ActRelationshipExternalReference::XCRPT)
or (self.entryRelationship->exists(rel : cda::EntryRelationship |
   rel.typeCode = vocab::x_ActRelationshipEntryRelationship::REFR
   and rel.observation.code.code = '48766-0'))
```

13. **MAY** contain exactly one Patient Awareness (CONF-180)

   - ```
     [OCL]: self.participant->one(partic : cda::Participant2 |
      partic.oclIsKindOf(ccd::PatientAwareness))
     ```

Viral Hepatitis History Observation example

Chapter

5

OTHER CLASSES

Topics:

- *Acute Hepatitis B Immunization Product*

This section of the Implementation Guide describes other classes that are not CDA Clinical Documents, Sections, or Clinical Statements.

Acute Hepatitis B Immunization Product

[ManufacturedProduct: templateId `2.16.840.1.113883.10.20.15.3.24`]

1. **SHALL** conform to *CCD Product* template (templateId: `2.16.840.1.113883.10.20.1.53`)
2. **MAY** contain at least one [1..*] **id** (CONF-366)

   - uniquely represents a particular kind of product
3. **SHALL** satisfy: Contain exactly one manufacturedMaterial. (CONF-357)

   - `[OCL]: not self.manufacturedMaterial.oclIsUndefined()`
4. **SHALL** satisfy: Contain exactly one manufacturedMaterial / code. (CONF-358)

   - `[OCL]: not self.manufacturedMaterial.code.oclIsUndefined()`
5. The value for "manufacturedMaterial / code" in a product template **SHOULD** be selected from the RxNorm (2.16.840.1.113883.6.88) code system for medications, and from the CDC Vaccine Code (2.16.840.1.113883.6.59) code system for immunizations10, or **MAY** be selected from ValueSet 2.16.840.1.113883.1.11.20.8 MedicationTypeCode STATIC 20061017. (CONF-359)

   - `[OCL]: self.manufacturedMaterial.code.codeSystem = '2.16.840.1.113883.6.88' or self.manufacturedMaterial.code.codeSystem='2.16.840.1.113883.6.59' or self.manufacturedMaterial.code.codeSystem='2.16.840.1.113883.6.96'`
6. The value for "manufacturedMaterial / code" in a product template **MAY** contain a precoordinated product strength, product form, or product concentration (e.g. "metoprolol 25mg tablet", "amoxicillin 400mg/5mL suspension"). (CONF-360)

   - UNIMPLEMENTABLE
7. If manufacturedMaterial / code contains a precoordinated unit dose (e.g. "metoprolol 25mg tablet"), then SubstanceAdministration / doseQuantity **SHALL** be a unitless number that indicates the number of products given per administration. (CONF-361)

   - UNIMPLEMENTABLE
8. If manufacturedMaterial / code does not contain a precoordinated unit dose (e.g. "metoprolol product"), then SubstanceAdministration / doseQuantity **SHALL** be a physical quantity that indicates the amount of product given per administration. (CONF-362)

   - UNIMPLEMENTABLE
9. **SHALL** satisfy: A manufacturedMaterial in a product template contains exactly one code / originalText, which represents the generic name of the product. (CONF-363)

   - `[OCL]: not self.manufacturedMaterial.code.originalText.oclIsUndefined()`
10. **MAY** satisfy: A manufacturedMaterial in a product template contains exactly one name, which represents the brand name of the product. (CONF-364)

    - `[OCL]: not self.manufacturedMaterial.name.oclIsUndefined()`
11. **MAY** satisfy: contains exactly one manufacturedProduct / manufacturerOrganization, which represents the manufacturer of the Material. (CONF-365)

    - `[OCL]: self.manufacturerOrganization->size() = 1`
12. If ManufacturedProduct in a product template contains manufacturedProduct / id, then ManufacturedProduct **SHOULD** also contain manufacturedProduct / manufacturerOrganization. (CONF-367)

    - `[OCL]: self.id->size() > 0 implies self.manufacturerOrganization->size() > 0`
13. 2. **SHALL** contain [1..1] manufacturedMaterial (CONF:1049), which a. **SHALL** contain [1..1] code/@code, which **SHALL** be selected from ValueSet 2.16.840.1.114222.4.11.3219 Vaccine Administered (Hepatitis B) DYNAMIC (CONF:1050)

Acute Hepatitis B Immunization Product example

Chapter

6

VALUE SETS

Topics:

The following tables summarize the value sets used in this Implementation Guide.

PHV S_ Blood Or Body Fluid Exposure Event_ CDC

Value Set	PHVS_BloodOrBodyFluidExposureEvent_CDC - 2.16.840.1.114222.4.11.3224
Code System	LOINC - 2.16.840.1.113883.6.1
Version	1
Source	PHIN-VADS
Source URL	http://phinvads.cdc.gov/vads/ViewValueSet.action?oid=2.16.840.1.114222.4.11.3224
Definition	Blood or Body Fluid Exposure Event value set has data elements or questions that captures the risk for transmission of disease based on Blood or Body Fluid exposure. This value set is based upon Clinical LOINC. Most of these data elements are occupational risk factors.

Concept Code	Concept Name	Code System	Description
55218-2	Date of actual exposure to blood and or body fluid:TmStp:Pt:Patient:Qn:	LOINC	
55214-1	Number of female sexual partners in 6 months before symptom onset:Num:Pt:Patient:Qn:	LOINC	
55213-3	Number of male sexual partners in 6 months before symptom onset:Num:Pt:Patient:Qn:	LOINC	
55216-6	Physical assault on exposed person involving blood or semen:Find:Pt:Patient:Ord:	LOINC	
55217-4	Stick or puncture with a needle or other object contaminated with blood:Find:Pt:Patient:Ord:	LOINC	
55215-8	Total number of lifetime sexual partners:Num:Pt:Patient:Qn:	LOINC	

PHV S_ Blood Or Body Fluid Exposure Frequency_ CDC

Value Set	PHVS_BloodOrBodyFluidExposureFrequency_CDC - 2.16.840.1.114222.4.11.3225
Code System	SNOMEDCT - 2.16.840.1.113883.6.96
Version	1
Source	PHIN-VADS
Source URL	http://phinvads.cdc.gov/vads/ViewValueSet.action?oid=2.16.840.1.114222.4.11.3225

Definition	Blood or body fluid exposure frequency value set has qualitative concepts that expresses the frequency such as frequent and infrequent. This value set is based upon SNOMED CT Qualifier domain (Frequencies - subdomain)

Concept Code	Concept Name	Code System	Description
70232002	Frequent (qualifier value)	SNOMEDCT	
27789000	Infrequent (qualifier value)	SNOMEDCT	

PHV S_ Bloodor Body Fluid Exposure Related Procedure_ CDC

Value Set	PHVS_BloodorBodyFluidExposureRelatedProcedure_CDC - 2.16.840.1.114222.4.11.3226
Code System	SNOMEDCT - 2.16.840.1.113883.6.96
Version	1
Source	PHIN-VADS
Source URL	http://phinvads.cdc.gov/vads/ViewValueSet.action?oid=2.16.840.1.114222.4.11.3226
Definition	Procedures involving blood or body fluid exposure. These procedures are considered as risk factors especially for bloodborne infectious diseases such as HIV, Hepatitis B and C. This value set is based upon SNOMED CT Procedure domain.

Concept Code	Concept Name	Code System	Description
44868003	Acupuncture (procedure)	SNOMEDCT	
302497006	Hemodialysis (procedure)	SNOMEDCT	
14152002	Intravenous infusion (procedure)	SNOMEDCT	
177594004	Piercing of ear lobe (procedure)	SNOMEDCT	
200849007	Piercing of external ear (procedure)	SNOMEDCT	
428898005	Piercing of genital structure (procedure)	SNOMEDCT	
6712008	Piercing of nail (procedure)	SNOMEDCT	
428324008	Piercing of tongue (procedure)	SNOMEDCT	
428985000	Piercing of umbilicus (procedure)	SNOMEDCT	
118817003	Procedure on oral cavity (procedure)	SNOMEDCT	
85921004	Puncture procedure (procedure)	SNOMEDCT	

Concept Code	Concept Name	Code System	Description
387713003	Surgical procedure (procedure)	SNOMEDCT	
14792009	Tattooing (procedure)	SNOMEDCT	
116859006	Transfusion of blood product (procedure)	SNOMEDCT	
77465005	Transplantation (procedure)	SNOMEDCT	

PHV S_ Contact Type_ Hepatitis B

Value Set	PHVS_ContactType_HepatitisB - 2.16.840.1.114222.4.11.3210
Code System	SNOMEDCT - 2.16.840.1.113883.6.96
Source	PHIN-VADS
Source URL	http://phinvads.cdc.gov/vads/ViewValueSet.action?oid=2.16.840.1.114222.4.11.3210
Definition	Types of contact that have been identified by public health departments as associated with higher risk of coming into contact with the hepatitis B virus.

Concept Code	Concept Name	Code System	Description
3950001	Birth (finding)	SNOMEDCT	
PHC800	Casual contact	PHIN VS (CDC Local Coding System)	
70256003	Finding of sexual intercourse (finding)	SNOMEDCT	
PHC300	Household member non-sexual	PHIN VS (CDC Local Coding System)	
226034001	Injecting drug user (finding)	SNOMEDCT	

PHV S_ Disease Type_ Acute Hepatitis B

Value Set	PHVS_DiseaseType_AcuteHepatitisB - 2.16.840.1.114222.4.11.3221
Code System	SNOMEDCT - 2.16.840.1.113883.6.96
Version	1
Source	PHIN-VADS

Source URL	http://phinvads.cdc.gov/vads/ViewValueSet.action?oid=2.16.840.1.114222.4.11.3221
Definition	Acute hepatitis B disease type value set has problems or disease related to Acute Hepatitis B. This value set is based upon SNOMED CT

Concept Code	Concept Name	Code System	Description
13265006	Acute fulminating type B viral hepatitis (disorder)	SNOMEDCT	
186624004	Acute hepatitis B with delta agent (coinfection) with hepatic coma (disorder)	SNOMEDCT	
186626002	Acute hepatitis B with delta-agent (coinfection) without hepatic coma (disorder)	SNOMEDCT	
424099008	Acute hepatitis B with hepatic coma (disorder)	SNOMEDCT	
235864009	Acute hepatitis B with hepatitis D (disorder	SNOMEDCT	
76795007	Acute type B viral hepatitis (disorder)	SNOMEDCT	

PHV S_ Disease Type_ Hepatitis

Value Set	PHVS_DiseaseType_Hepatitis - 2.16.840.1.114222.4.11.3230
Code System	SNOMEDCT - 2.16.840.1.113883.6.96
Version	1
Source	PHIN-VADS
Source URL	http://phinvads.cdc.gov/vads/ViewValueSet.action?oid=2.16.840.1.114222.4.11.3230
Definition	Hepatitis disease type value set has problems or disease related to hepatitis. This value set is based upon SNOMED CT.

Concept Code	Concept Name	Code System	Description
18917003	Acute fulminating type A viral hepatitis (disorder)	SNOMEDCT	
13265006	Acute fulminating type B viral hepatitis (disorder)	SNOMEDCT	
45042004	Acute fulminating viral hepatitis (disorder)	SNOMEDCT	
186624004	Acute hepatitis B with delta agent (coinfection) with hepatic coma (disorder)	SNOMEDCT	

Concept Code	Concept Name	Code System	Description
186626002	Acute hepatitis B with delta-agent (coinfection) without hepatic coma (disorder)	SNOMEDCT	
424099008	Acute hepatitis B with hepatic coma (disorder)	SNOMEDCT	
235864009	Acute hepatitis B with hepatitis D (disorder)	SNOMEDCT	
235866006	Acute hepatitis C (disorder)	SNOMEDCT	
235867002	Acute hepatitis E (disorder)	SNOMEDCT	
235868007	Acute non-A non-B hepatitis (disorder)	SNOMEDCT	
406585009	Acute non-A, non-B, non-C hepatitis (disorder)	SNOMEDCT	
25102003	Acute type A viral hepatitis (disorder)	SNOMEDCT	
76795007	Acute type B viral hepatitis (disorder)	SNOMEDCT	
57412004	Acute viral hepatitis (disorder)	SNOMEDCT	
79031007	Anicteric type A viral hepatitis (disorder)	SNOMEDCT	
53425008	Anicteric type B viral hepatitis (disorder)	SNOMEDCT	
4846001	Anicteric viral hepatitis (disorder)	SNOMEDCT	
50167007	Chronic active type B viral hepatitis (disorder)	SNOMEDCT	
66870002	Chronic active viral hepatitis (disorder)	SNOMEDCT	
1116000	Chronic aggressive type B viral hepatitis (disorder)	SNOMEDCT	
89789003	Chronic aggressive viral hepatitis (disorder)	SNOMEDCT	
424340000	Chronic hepatitis B with hepatic coma (disorder)	SNOMEDCT	
128302006	Chronic hepatitis C (disorder)	SNOMEDCT	
235870003	Chronic non-A non-B hepatitis (disorder)	SNOMEDCT	

Concept Code	Concept Name	Code System	Description
38662009	Chronic persistent type B viral hepatitis (disorder)	SNOMEDCT	
38662009	Chronic persistent viral hepatitis (disorder)	SNOMEDCT	
61977001	Chronic type B viral hepatitis (disorder)	SNOMEDCT	
10295004	Chronic viral hepatitis (disorder)	SNOMEDCT	
235869004	Chronic viral hepatitis B with hepatitis D (disorder)	SNOMEDCT	
186639003	Chronic viral hepatitis B without delta-agent (disorder)	SNOMEDCT	
206373002	Congenital hepatitis A infection (disorder)	SNOMEDCT	
278929008	Congenital hepatitis C infection (disorder)	SNOMEDCT	
276668008	Congenital non-A non-B hepatitis infection (disorder)	SNOMEDCT	
206372007	Congenital viral hepatitis (disorder)	SNOMEDCT	
60498001	Congenital viral hepatitis B infection (disorder)	SNOMEDCT	
424460009	Hepatitis B with hepatitis D superinfection (disorder)	SNOMEDCT	
235865005	Hepatitis D superinfection of hepatitis B carrier (disorder)	SNOMEDCT	
186634008	Hepatitis non-A non-B (disorder)	SNOMEDCT	
406584008	Non-A, non-B, non-C hepatitis (disorder)	SNOMEDCT	
43634002	Relapsing type A viral hepatitis (disorder)	SNOMEDCT	
29062009	Relapsing type B viral hepatitis (disorder)	SNOMEDCT	
58282009	Relapsing viral hepatitis (disorder)	SNOMEDCT	
187260009	Sequelae of viral hepatitis (disorder)	SNOMEDCT	

Concept Code	Concept Name	Code System	Description
66071002	Type B viral hepatitis (disorder)	SNOMEDCT	
3738000	Viral hepatitis (disorder)	SNOMEDCT	
186621007	Viral hepatitis A with coma (disorder)	SNOMEDCT	
16060001	Viral hepatitis A with hepatic coma (disorder)	SNOMEDCT	
111879004	Viral hepatitis A without hepatic coma (disorder)	SNOMEDCT	
424758008	Viral hepatitis A without hepatic coma, without hepatitis delta (disorder)	SNOMEDCT	
186623005	Viral hepatitis B with coma (disorder)	SNOMEDCT	
26206000	Viral hepatitis B with hepatic coma (disorder)	SNOMEDCT	
111891008	Viral hepatitis B without hepatic coma (disorder)	SNOMEDCT	
50711007	Viral hepatitis C (disorder)	SNOMEDCT	
186628001	Viral hepatitis C with coma (disorder)	SNOMEDCT	
199203001	Viral hepatitis complicating pregnancy, childbirth and the puerperium (disorder)	SNOMEDCT	
40946000	Viral hepatitis with hepatic coma (disorder)	SNOMEDCT	
111896003	Viral hepatitis without hepatic coma (disorder)	SNOMEDCT	
40468003	Viral hepatitis, type A (disorder)	SNOMEDCT	
397575003	Viral hepatitis, type G (disorder)	SNOMEDCT	

PHV S_ Disease Type_ STD

Value Set	PHVS_DiseaseType_STD - 2.16.840.1.114222.4.11.3231
Code System	SNOMEDCT - 2.16.840.1.113883.6.96
Source	PHIN-VADS
Source URL	http://phinvads.cdc.gov/vads/ViewValueSet.action?oid=2.16.840.1.114222.4.11.3231

Concept Code	Concept Name	Code System	Description
235861001	Abscess gonococcal (disorder)	SNOMEDCT	
266130009	Acquired syphilis - early latent (disorder)	SNOMEDCT	
266136003	Acquired syphilis - late latent (disorder)	SNOMEDCT	
240555007	Acquired syphilis (disorder)	SNOMEDCT	
426165006	Acute genitourinary chlamydia infection (disorder)	SNOMEDCT	
80604007	Acute gonococcal bartholinitis (disorder)	SNOMEDCT	
20943002	Acute gonococcal cervicitis (disorder)	SNOMEDCT	
24868007	Acute gonococcal cystitis (disorder)	SNOMEDCT	
65295003	Acute gonococcal endometritis (disorder)	SNOMEDCT	
30168008	Acute gonococcal epididymo-orchitis (disorder)	SNOMEDCT	
194910001	Acute gonococcal pericarditis (disorder)	SNOMEDCT	
111806005	Acute gonococcal prostatitis (disorder)	SNOMEDCT	
45377007	Acute gonococcal salpingitis (disorder)	SNOMEDCT	
65049003	Acute gonococcal seminal vesiculitis (disorder)	SNOMEDCT	
29864006	Acute gonococcal urethritis (disorder)	SNOMEDCT	
2390000	Acute gonococcal vulvovaginitis (disorder)	SNOMEDCT	
17305005	Acute gonorrhea of genitourinary tract (disorder)	SNOMEDCT	
54825009	Acute gonorrhea of lower genitourinary tract (disorder)	SNOMEDCT	
50970007	Acute gonorrhea of upper genitourinary tract (disorder)	SNOMEDCT	

Concept Code	Concept Name	Code System	Description
194947001	Acute myocarditis - syphilitic (disorder)	SNOMEDCT	
186863009	Acute secondary syphilitic meningitis (disorder)	SNOMEDCT	
194907008	Acute syphilitic pericarditis (disorder)	SNOMEDCT	
302812006	Anogenital human papilloma virus infection (disorder)	SNOMEDCT	
240545008	Anogenital papillomaviral intraepithelial neoplasia (disorder)	SNOMEDCT	
37754005	Asymptomatic neurosyphilis (disorder)	SNOMEDCT	
240565001	Asymptomatic secondary neurosyphilis (disorder)	SNOMEDCT	
83883001	Cardiovascular syphilis (disorder)	SNOMEDCT	
240585002	Chancroid - anogenital ulcer (disorder)	SNOMEDCT	
240586001	Chancroid - extragenital ulcer (disorder)	SNOMEDCT	
240587005	Chancroid - latent infection (disorder)	SNOMEDCT	
266143009	Chancroid (disorder)	SNOMEDCT	
236749007	Chlamydial balanitis (disorder)	SNOMEDCT	
237106009	Chlamydial bartholinitis (disorder)	SNOMEDCT	
237084006	Chlamydial cervicitis (disorder)	SNOMEDCT	
236767000	Chlamydial epididymitis (disorder)	SNOMEDCT	
236773004	Chlamydial epididymo-orchitis (disorder)	SNOMEDCT	
186729003	Chlamydial infection of lower genitourinary tract (disorder)	SNOMEDCT	
236672003	Chlamydial prostatitis (disorder)	SNOMEDCT	

Concept Code	Concept Name	Code System	Description
237039009	Chlamydial salpingitis (disorder)	SNOMEDCT	
236683007	Chlamydial urethritis (disorder)	SNOMEDCT	
237097008	Chlamydial vulvovaginitis (disorder)	SNOMEDCT	
12373006	Chronic gonococcal bartholinitis (disorder)	SNOMEDCT	
76802005	Chronic gonococcal cervicitis (disorder)	SNOMEDCT	
88813005	Chronic gonococcal cystitis (disorder)	SNOMEDCT	
31999004	Chronic gonococcal endometritis (disorder)	SNOMEDCT	
35526001	Chronic gonococcal epididymo-orchitis (disorder)	SNOMEDCT	
60893000	Chronic gonococcal prostatitis (disorder)	SNOMEDCT	
53529004	Chronic gonococcal salpingitis (disorder)	SNOMEDCT	
23975003	Chronic gonococcal seminal vesiculitis (disorder)	SNOMEDCT	
44412000	Chronic gonococcal urethritis (disorder)	SNOMEDCT	
11906007	Chronic gonococcal vulvovaginitis (disorder)	SNOMEDCT	
27681008	Chronic gonorrhea (disorder)	SNOMEDCT	
186915005	Chronic gonorrhea lower genitourinary tract (disorder)	SNOMEDCT	
28572009	Chronic gonorrhea of genitourinary tract (disorder)	SNOMEDCT	
80388004	Chronic gonorrhea of upper genitourinary tract (disorder)	SNOMEDCT	
19290004	Clutton's joints (disorder)	SNOMEDCT	
277499006	Complicated donovanosis (disorder)	SNOMEDCT	

Concept Code	Concept Name	Code System	Description
91554004	Condyloma latum (disorder)	SNOMEDCT	
402945009	Condylomata lata of penis (disorder)	SNOMEDCT	
402944008	Condylomata lata of perianal skin (disorder)	SNOMEDCT	
402946005	Condylomata lata of vulva (disorder)	SNOMEDCT	
35742006	Congenital syphilis (disorder)	SNOMEDCT	
87318008	Congenital syphilis with gumma (disorder)	SNOMEDCT	
9941009	Congenital syphilitic choroiditis (disorder)	SNOMEDCT	
275376007	Congenital syphilitic chronic coryza (disorder)	SNOMEDCT	
83492008	Congenital syphilitic coryza (disorder)	SNOMEDCT	
32735002	Congenital syphilitic encephalitis (disorder)	SNOMEDCT	
66083000	Congenital syphilitic epiphysitis (disorder)	SNOMEDCT	
186841000	Congenital syphilitic gumma (disorder)	SNOMEDCT	
192008	Congenital syphilitic hepatomegaly (disorder)	SNOMEDCT	
6267005	Congenital syphilitic meningitis (disorder)	SNOMEDCT	
54069001	Congenital syphilitic mucous patches (disorder)	SNOMEDCT	
58392004	Congenital syphilitic osteochondritis (disorder)	SNOMEDCT	
59721007	Congenital syphilitic pemphigus (disorder)	SNOMEDCT	
27648007	Congenital syphilitic periostitis (disorder)	SNOMEDCT	
276700005	Congenital syphilitic rhinitis (disorder)	SNOMEDCT	
56118002	Congenital syphilitic splenomegaly (disorder)	SNOMEDCT	
240561005	Corona veneris (disorder)	SNOMEDCT	

Concept Code	Concept Name	Code System	Description
82959004	Dementia paralytica juvenilis (disorder)	SNOMEDCT	
240606006	Donovanosis - anogenital ulcer (disorder)	SNOMEDCT	
240607002	Donovanosis - inguinal lesion (disorder)	SNOMEDCT	
240608007	Donovanosis - non-genital lesion (disorder)	SNOMEDCT	
186833000	Early congenital syphilis - latent (disorder)	SNOMEDCT	
4359001	Early congenital syphilis (less than 2 years) (disorder)	SNOMEDCT	
266125005	Early congenital syphilis with symptoms (disorder)	SNOMEDCT	
46235002	"Early latent congenital syphilis, positive serology, negative spinal fluid (disorder)"	SNOMEDCT	
31137003	"Early latent syphilis, positive serology, negative cerebrospinal fluid, less than 2 years after infection (disorder)"	SNOMEDCT	
1107004	"Early latent syphilis, positive serology, negative cerebrospinal fluid, with relapse after treatment (disorder)"	SNOMEDCT	
240602008	Early lymphogranuloma venereum (disorder)	SNOMEDCT	
186846005	Early symptomatic syphilis (disorder)	SNOMEDCT	
232313005	Endocochlear syphilis (disorder)	SNOMEDCT	
272262003	Esthiomene (disorder)	SNOMEDCT	
198242009	Female gonococcal pelvic inflammatory disease (disorder)	SNOMEDCT	
198175009	Female syphilitic pelvic inflammatory disease (disorder)	SNOMEDCT	
51928006	General paresis - neurosyphilis (disorder)	SNOMEDCT	

Concept Code	Concept Name	Code System	Description
33839006	Genital herpes simplex (disorder)	SNOMEDCT	
440714005	Genital Herpes simplex type 1 infection (disorder)	SNOMEDCT	
423391007	Genital herpes simplex type 2 (disorder)	SNOMEDCT	
312099009	Genitourinary chlamydia infection (disorder)	SNOMEDCT	
186931002	Gonococcal anal infection (disorder)	SNOMEDCT	
272006008	Gonococcal arthritis dermatitis syndrome (disorder)	SNOMEDCT	
240573005	Gonococcal Bartholin's gland abscess (disorder)	SNOMEDCT	
46699001	Gonococcal bursitis (disorder)	SNOMEDCT	
237083000	Gonococcal cervicitis (disorder)	SNOMEDCT	
231858009	Gonococcal conjunctivitis (disorder)	SNOMEDCT	
28438004	Gonococcal conjunctivitis neonatorum (disorder)	SNOMEDCT	
240576002	Gonococcal Cowperitis (disorder)	SNOMEDCT	
197848003	Gonococcal cystitis (disorder)	SNOMEDCT	
61048000	Gonococcal endocarditis (disorder)	SNOMEDCT	
237069002	Gonococcal endometritis (disorder)	SNOMEDCT	
111807001	Gonococcal endophthalmia (disorder)	SNOMEDCT	
NewCode		SNOMEDCT	
236766009	Gonococcal epididymitis (disorder)	SNOMEDCT	
236772009	Gonococcal epididymo-orchitis (disorder)	SNOMEDCT	
240581006	Gonococcal female pelvic infection (disorder)	SNOMEDCT	

Concept Code	Concept Name	Code System	Description
9241004	Gonococcal heart disease (disorder)	SNOMEDCT	
235863003	Gonococcal hepatitis (disorder)	SNOMEDCT	
35876006	Gonococcal infection of eye (disorder)	SNOMEDCT	
44743006	Gonococcal infection of joint (disorder)	SNOMEDCT	
406581000	Gonococcal infection of the central nervous system (disorder)	SNOMEDCT	
9091006	Gonococcal iridocyclitis (disorder)	SNOMEDCT	
40149008	Gonococcal keratitis (disorder)	SNOMEDCT	
60335002	Gonococcal keratosis (disorder)	SNOMEDCT	
240578001	Gonococcal Littre's gland abscess (disorder)	SNOMEDCT	
240577006	Gonococcal Littritis (disorder)	SNOMEDCT	
238419002	Gonococcal lymphangitis of penis (disorder)	SNOMEDCT	
151004	Gonococcal meningitis (disorder)	SNOMEDCT	
240579009	Gonococcal paraurethral gland abscess (disorder)	SNOMEDCT	
307423008	Gonococcal pelvic peritonitis (disorder)	SNOMEDCT	
90428001	Gonococcal pericarditis (disorder)	SNOMEDCT	
237042003	Gonococcal perihepatitis (disorder)	SNOMEDCT	
186939000	Gonococcal peritonitis (disorder)	SNOMEDCT	
236688003	Gonococcal periurethral gland abscess (disorder)	SNOMEDCT	
197967000	Gonococcal prostatitis (disorder)	SNOMEDCT	
186932009	Gonococcal rectal infection (disorder)	SNOMEDCT	
237038001	Gonococcal salpingitis (disorder)	SNOMEDCT	

Concept Code	Concept Name	Code System	Description
301990003	Gonococcal seminal vesiculitis (disorder)	SNOMEDCT	
240574004	Gonococcal Skenitis (disorder)	SNOMEDCT	
53664003	Gonococcal spondylitis (disorder)	SNOMEDCT	
240582004	Gonococcal synovitis (disorder)	SNOMEDCT	
266138002	Gonococcal synovitis or tenosynovitis (disorder)	SNOMEDCT	
240039005	Gonococcal tenosynovitis (disorder)	SNOMEDCT	
237046000	Gonococcal tubo-ovarian abscess (disorder)	SNOMEDCT	
240575003	Gonococcal Tysonitis (disorder)	SNOMEDCT	
236687008	Gonococcal urethral abscess (disorder)	SNOMEDCT	
236682002	Gonococcal urethritis (disorder)	SNOMEDCT	
237095000	Gonococcal vulvovaginitis (disorder)	SNOMEDCT	
5085001	Gonococcemia (disorder)	SNOMEDCT	
15628003	Gonorrhea (disorder)	SNOMEDCT	
35255008	"Gonorrhea in mother complicating pregnancy, childbirth AND/OR puerperium (disorder)"	SNOMEDCT	
74372003	Gonorrhea of pharynx (disorder)	SNOMEDCT	
42746002	Gonorrhea of rectum (disorder)	SNOMEDCT	
240572000	Gonorrhea with local complication (disorder)	SNOMEDCT	
28867007	Granuloma inguinale (disorder)	SNOMEDCT	
240566000	Gummatous neurosyphilis (disorder)	SNOMEDCT	
197347003	Hepatitis in late syphilis (disorder)	SNOMEDCT	
197348008	Hepatitis in secondary syphilis (disorder)	SNOMEDCT	

Concept Code	Concept Name	Code System	Description
427578006	Herpes simplex of female genitalia (disorder)	SNOMEDCT	
129670002	Herpetic cervicitis (disorder)	SNOMEDCT	
10227000	Herpetic infection of penis (disorder)	SNOMEDCT	
59819007	Herpetic ulceration of vulva (disorder)	SNOMEDCT	
278068003	Herpetic vesicle in vagina (disorder)	SNOMEDCT	
27420004	Herpetic vulvovaginitis (disorder)	SNOMEDCT	
86443005	Hutchinson's teeth (disorder)	SNOMEDCT	
240554006	Hutchinson's triad (disorder)	SNOMEDCT	
71011005	Infestation by Phthirus pubis (disorder)	SNOMEDCT	
37028008	Juvenile tabes (disorder)	SNOMEDCT	
240552005	Juvenile tabes dorsalis (disorder)	SNOMEDCT	
68764005	Juvenile taboparesis (disorder)	SNOMEDCT	
193786000	Keratitis due to syphilis (disorder)	SNOMEDCT	
266131008	Late cardiovascular syphilis (disorder)	SNOMEDCT	
266126006	Late congenital neurosyphilis (disorder)	SNOMEDCT	
240553000	Late congenital neurovascular syphilis (disorder)	SNOMEDCT	
82323002	Late congenital syphilis (2 years OR more) (disorder)	SNOMEDCT	
827006	"Late congenital syphilis, latent (+ sero., - C.S.F., 2 years OR more) (disorder)"	SNOMEDCT	
230152000	Late congenital syphilitic meningitis (disorder)	SNOMEDCT	
186842007	Late congenital syphilitic oculopathy (disorder)	SNOMEDCT	

Concept Code	Concept Name	Code System	Description
230563005	Late congenital syphilitic polyneuropathy (disorder)	SNOMEDCT	
186903006	Late latent syphilis (disorder)	SNOMEDCT	
240603003	Late lymphogranuloma venereum (disorder)	SNOMEDCT	
266133006	Late quaternary neurosyphilis (disorder)	SNOMEDCT	
402947001	Late secondary syphilis (disorder)	SNOMEDCT	
72083004	Late syphilis (disorder)	SNOMEDCT	
197757004	Late syphilis of kidney (disorder)	SNOMEDCT	
405635002	Late syphilis with clinical manifestations other than neurosyphilis (disorder	SNOMEDCT	
66887000	"Late syphilis, latent (positive serology, negative cephalospinal fluid 2 years after) (disorder)"	SNOMEDCT	
230182006	Late syphilitic encephalitis (disorder)	SNOMEDCT	
186867005	Latent early syphilis (disorder)	SNOMEDCT	
240604009	Latent lymphogranuloma venereum (disorder)	SNOMEDCT	
67125004	Latent syphilis with positive serology (disorder)	SNOMEDCT	
186946009	Lymphogranuloma venereum (disorder)	SNOMEDCT	
240558009	Macular syphilide (disorder)	SNOMEDCT	
199163006	Maternal gonorrhea during pregnancy - baby delivered (disorder)	SNOMEDCT	
199165004	Maternal gonorrhea during pregnancy - baby not yet delivered (disorder	SNOMEDCT	
199161008	Maternal gonorrhea during pregnancy,	SNOMEDCT	

Concept Code	Concept Name	Code System	Description
	childbirth and the puerperium (disorder		
199164000	"Maternal gonorrhea in the puerperium - baby delivered during current episode of care (disorder)"	SNOMEDCT	
199166003	"Maternal gonorrhea in the puerperium - baby delivered during previous episode of care (disorder)"	SNOMEDCT	
199156006	Maternal syphilis during pregnancy - baby delivered (disorder)	SNOMEDCT	
199158007	Maternal syphilis during pregnancy - baby not yet delivered (disorder)	SNOMEDCT	
199154009	Maternal syphilis during pregnancy, childbirth and the puerperium (disorder	SNOMEDCT	
199157002	"Maternal syphilis in the puerperium - baby delivered during current episode of care (disorder)"	SNOMEDCT	
199159004	"Maternal syphilis in the puerperium - baby delivered during previous episode of care (disorder)"	SNOMEDCT	
240568004	Meningovascular syphilis - quaternary stage (disorder)	SNOMEDCT	
109436001	Moon's molar teeth (disorder)	SNOMEDCT	
232367004	Nasal syphilis (disorder)	SNOMEDCT	
240571007	Neonatal gonococcal infection (disorder)	SNOMEDCT	
237096004	Neonatal gonococcal vulvovaginitis (disorder)	SNOMEDCT	
26039008	Neurosyphilis (disorder)	SNOMEDCT	
402949003	Nodular syphilide (disorder)	SNOMEDCT	
410478005	Ocular syphilis (disorder)	SNOMEDCT	

Concept Code	Concept Name	Code System	Description
402951004	Oral mucous membrane lesion due to late syphilis (disorder)	SNOMEDCT	
235062007	Oral syphilis (disorder)	SNOMEDCT	
240560006	Papular syphilide (disorder)	SNOMEDCT	
402954007	Penile chancroid (disorder)	SNOMEDCT	
31015008	Primary anal syphilis (disorder)	SNOMEDCT	
240556008	Primary extragenital syphilis (disorder)	SNOMEDCT	
186847001	Primary genital syphilis (disorder)	SNOMEDCT	
402889005	Primary herpes simplex infection of penis (disorder)	SNOMEDCT	
402890001	Primary herpetic vulvovaginitis (disorder)	SNOMEDCT	
13095005	Primary symptomatic early syphilis (disorder)	SNOMEDCT	
266127002	Primary syphilis (disorder)	SNOMEDCT	
27460003	Primary syphilis of breast (disorder)	SNOMEDCT	
54274001	Primary syphilis of fingers (disorder)	SNOMEDCT	
28198007	Primary syphilis of lip (disorder)	SNOMEDCT	
237447001	Primary syphilis of nipple (disorder)	SNOMEDCT	
10345003	Primary syphilis of tonsils (disorder)	SNOMEDCT	
314840009	Progressive locomotor ataxia (disorder)	SNOMEDCT	
240562003	Pustular syphilide (disorder)	SNOMEDCT	
278481001	Quaternary syphilis (disorder)	SNOMEDCT	
266128007	Rash of secondary syphilis (disorder)	SNOMEDCT	
402894005	Recurrent genital herpes simplex (disorder)	SNOMEDCT	

Concept Code	Concept Name	Code System	Description
439912007	Recurrent genital Herpes simplex type 1 infection (disorder)	SNOMEDCT	
439913002	Recurrent genital Herpes simplex type 2 infection (disorder)	SNOMEDCT	
402895006	Recurrent herpes simplex of penis (disorder)	SNOMEDCT	
402896007	Recurrent herpetic vulvovaginitis (disorder)	SNOMEDCT	
240564002	Secondary neurosyphilis (disorder)	SNOMEDCT	
13731006	Secondary symptomatic early syphilis (disorder)	SNOMEDCT	
240557004	Secondary syphilis (disorder)	SNOMEDCT	
77028001	Secondary syphilis of anus (disorder)	SNOMEDCT	
63751007	Secondary syphilis of bone (disorder)	SNOMEDCT	
80770009	Secondary syphilis of liver (disorder)	SNOMEDCT	
60528006	Secondary syphilis of mouth (disorder)	SNOMEDCT	
39085002	Secondary syphilis of mucous membrane (disorder)	SNOMEDCT	
51960003	Secondary syphilis of pharynx (disorder)	SNOMEDCT	
59233003	Secondary syphilis of skin (disorder)	SNOMEDCT	
186850003	Secondary syphilis of skin and mucous membrane (disorder)	SNOMEDCT	
81339006	Secondary syphilis of tonsil (disorder)	SNOMEDCT	
58227000	Secondary syphilis of viscera (disorder)	SNOMEDCT	
52414005	Secondary syphilis of vulva (disorder)	SNOMEDCT	
186861006	Secondary syphilis relapse (disorder)	SNOMEDCT	

Concept Code	Concept Name	Code System	Description
85857008	Secondary syphilis, relapse (treated) (disorder)	SNOMEDCT	
62861003	Secondary syphilis, relapse (untreated) (disorder)	SNOMEDCT	
59934002	Secondary syphilitic adenopathy (disorder)	SNOMEDCT	
66281009	Secondary syphilitic chorioretinitis (disorder)	SNOMEDCT	
30080002	Secondary syphilitic iridocyclitis (disorder)	SNOMEDCT	
192647003	Secondary syphilitic meningitis (disorder)	SNOMEDCT	
69595007	Secondary syphilitic periostitis (disorder)	SNOMEDCT	
70983007	Secondary syphilitic uveitis (disorder)	SNOMEDCT	
186868000	Serological relapse after treatment of latent early syphilis (disorder	SNOMEDCT	
402126004	Sexually transmitted bacterial disease affecting skin (disorder)	SNOMEDCT	
8098009	Sexually transmitted infectious disease (disorder)	SNOMEDCT	
75299005	Spastic spinal syphilitic paralysis (disorder)	SNOMEDCT	
76272004	Syphilis (disorder)	SNOMEDCT	
34242002	"Syphilis in mother complicating pregnancy, childbirth AND/OR puerperium (disorder)"	SNOMEDCT	
50528008	Syphilis of bone (disorder)	SNOMEDCT	
237446005	Syphilis of breast (disorder)	SNOMEDCT	
23550005	Syphilis of kidney (disorder)	SNOMEDCT	
86028001	Syphilis of liver (disorder)	SNOMEDCT	
8555001	Syphilis of lung (disorder)	SNOMEDCT	

Concept Code	Concept Name	Code System	Description
58056005	Syphilis of mitral valve (disorder)	SNOMEDCT	
88943008	Syphilis of muscle (disorder)	SNOMEDCT	
45058001	Syphilis of pulmonary valve (disorder)	SNOMEDCT	
37430004	Syphilis of synovium (disorder)	SNOMEDCT	
186899004	Syphilis of synovium, tendon or bursa (disorder)	SNOMEDCT	
49923008	Syphilis of tendon (disorder)	SNOMEDCT	
42770003	Syphilis of tricuspid valve (disorder)	SNOMEDCT	
302813001	Syphilitic acoustic neuritis - quaternary stage (disorder)	SNOMEDCT	
19206003	Syphilitic acoustic neuritis (disorder)	SNOMEDCT	
59307008	Syphilitic alopecia (disorder)	SNOMEDCT	
234017002	Syphilitic aneurysm (disorder)	SNOMEDCT	
12232008	Syphilitic aneurysm of aorta (disorder)	SNOMEDCT	
61612001	Syphilitic aortic incompetence (disorder)	SNOMEDCT	
82355002	Syphilitic aortic stenosis (disorder)	SNOMEDCT	
20735004	Syphilitic aortitis (disorder)	SNOMEDCT	
402943002	Syphilitic balanitis (disorder)	SNOMEDCT	
202933002	Syphilitic bursitis (disorder)	SNOMEDCT	
230735006	Syphilitic cerebral arteritis (disorder)	SNOMEDCT	
402942007	Syphilitic chancre of oral mucous membranes (disorder)	SNOMEDCT	
402940004	Syphilitic chancre of penis (disorder)	SNOMEDCT	

Concept Code	Concept Name	Code System	Description
402941000	Syphilitic chancre of vulva (disorder)	SNOMEDCT	
312934004	Syphilitic chorioretinitis (disorder)	SNOMEDCT	
16070004	Syphilitic cirrhosis (disorder)	SNOMEDCT	
240567009	Syphilitic coronary artery disease (disorder)	SNOMEDCT	
77939001	Syphilitic disseminated retinochoroiditis (disorder)	SNOMEDCT	
26135000	Syphilitic encephalitis (disorder)	SNOMEDCT	
67391006	Syphilitic endocarditis (disorder)	SNOMEDCT	
278480000	Syphilitic endocarditis of aortic valve (disorder)	SNOMEDCT	
186875004	Syphilitic endocarditis of mitral valve (disorder)	SNOMEDCT	
186878002	Syphilitic endocarditis of pulmonary valve (disorder)	SNOMEDCT	
186877007	Syphilitic endocarditis of tricuspid valve (disorder)	SNOMEDCT	
11338007	Syphilitic episcleritis (disorder)	SNOMEDCT	
64102008	Syphilitic gumma (disorder)	SNOMEDCT	
21523006	Syphilitic gumma of central nervous system (disorder)	SNOMEDCT	
235064008	Syphilitic gumma of oral cavity (disorder)	SNOMEDCT	
44568006	Syphilitic interstitial keratitis (disorder)	SNOMEDCT	
55768006	Syphilitic leukoderma (disorder)	SNOMEDCT	
402950003	Syphilitic leukoplakia of tongue (disorder)	SNOMEDCT	
240563008	Syphilitic mucosal ulceration (disorder)	SNOMEDCT	
22386003	Syphilitic optic atrophy (disorder)	SNOMEDCT	

Concept Code	Concept Name	Code System	Description
235032001	Syphilitic oral leukoplakia (disorder)	SNOMEDCT	
235065009	Syphilitic oral snail track ulcer (disorder)	SNOMEDCT	
62207008	Syphilitic ostial coronary disease (disorder)	SNOMEDCT	
38523005	Syphilitic parkinsonism (disorder)	SNOMEDCT	
3589003	Syphilitic pericarditis (disorder)	SNOMEDCT	
240569007	Syphilitic polyneuropathy (disorder)	SNOMEDCT	
197305002	Syphilitic portal cirrhosis (disorder)	SNOMEDCT	
197966009	Syphilitic prostatitis (disorder)	SNOMEDCT	
4483005	Syphilitic punched out ulcer (disorder)	SNOMEDCT	
410470003	Syphilitic retinitis (disorder)	SNOMEDCT	
36276008	Syphilitic retrobulbar neuritis (disorder)	SNOMEDCT	
77782006	Syphilitic saddle nose (disorder)	SNOMEDCT	
371237000	Syphilitic skin disorder (disorder)	SNOMEDCT	
233849007	Syphilitic valve disease (disorder)	SNOMEDCT	
286882004	Syphilitic/venereal/ spirochetal disease (disorder)	SNOMEDCT	
316841006	Tabes dorsalis (disorder)	SNOMEDCT	
315826004	Tabetic neurosyphilis (disorder)	SNOMEDCT	
13310005	Taboparesis (disorder)	SNOMEDCT	
312955002	Tertiary syphilitic chorioretinitis (disorder)	SNOMEDCT	
197850006	Trichomonal cystitis (disorder)	SNOMEDCT	
276877003	Trichomonal vaginitis (disorder)	SNOMEDCT	

Concept Code	Concept Name	Code System	Description
428230005	Trichomonal vaginitis in pregnancy (disorder)	SNOMEDCT	
237104007	Trichomonal vulvitis (disorder)	SNOMEDCT	
81598001	Trichomonal vulvovaginitis (disorder)	SNOMEDCT	
35089004	Urogenital infection by Trichomonas vaginalis (disorder)	SNOMEDCT	
186854007	Uveitis due to secondary syphilis (disorder)	SNOMEDCT	
27075004	"Venereal disease in mother complicating pregnancy, childbirth AND/OR puerperium (disorder)"	SNOMEDCT	
274118001	Venereal disease in pregnancy (disorder)	SNOMEDCT	
402955008	Vulval chancroid (disorder)	SNOMEDCT	

PHV S_ Lab Test Result Name_ Hepatitis

Value Set	PHVS_LabTestResultName_Hepatitis - 2.16.840.1.114222.4.11.3043
Code System	LOINC - 2.16.840.1.113883.6.1
Version	1
Source	PHIN-VADS
Source URL	http://phinvads.cdc.gov/vads/ViewValueSet.action?oid=2.16.840.1.114222.4.11.3043
Definition	Name of Hepatitis test result.

Concept Code	Concept Name	Code System	Description
5183-9	HAV Ab Ser EIA-aCnc	LOINC	
20575-7	HAV Ab Ser Ql	LOINC	
13951-9	HAV Ab Ser Ql EIA	LOINC	
5184-7	HAV Ab Ser RIA-aCnc	LOINC	
22312-3	HAV Ab Ser-aCnc	LOINC	
5179-7	HAV IgG Ser EIA-aCnc	LOINC	
32018-4	HAV IgG Ser Ql	LOINC	
40724-7	HAV IgG Ser Ql EIA	LOINC	
5180-5	HAV IgG Ser RIA-aCnc	LOINC	

Concept Code	Concept Name	Code System	Description
22313-1	HAV IgG Ser-aCnc	LOINC	
5181-3	HAV IgM Ser EIA-aCnc	LOINC	
22314-9	HAV IgM Ser Ql	LOINC	
13950-1	HAV IgM Ser Ql EIA	LOINC	
5182-1	HAV IgM Ser RIA-aCnc	LOINC	
22315-6	HAV IgM Ser-aCnc	LOINC	
7904-6	HAV RNA Ser Ql PCR	LOINC	
47440-3	HBV core Ab Ser Donr Ql	LOINC	
47358-7	HBV core Ab Ser Donr Ql EIA	LOINC	
22317-2	HBV core Ab Ser Donr-aCnc	LOINC	
5187-0	HBV core Ab Ser EIA-aCnc	LOINC	
16933-4	HBV core Ab Ser Ql	LOINC	
13952-7	HBV core Ab Ser Ql EIA	LOINC	
5188-8	HBV core Ab Ser RIA-aCnc	LOINC	
22316-4	HBV core Ab Ser-aCnc	LOINC	
10673-2	HBV core Ag Tiss Ql ImStn	LOINC	
13919-6	HBV core IgG Ser EIA-aCnc	LOINC	
32685-0	HBV core IgG Ser Ql	LOINC	
40725-4	HBV core IgG Ser Ql EIA	LOINC	
22318-0	HBV core IgG Ser-aCnc	LOINC	
5185-4	HBV core IgM Ser EIA-aCnc	LOINC	
NewCode		LOINC	
31204-1	HBV core IgM Ser Ql	LOINC	
24113-3	HBV core IgM Ser Ql EIA	LOINC	
5186-2	HBV core IgM Ser RIA-aCnc	LOINC	
22319-8	HBV core IgM Ser-aCnc	LOINC	
49363-5	HBV DNA # CSF PCR	LOINC	
49364-3	HBV DNA # Mar PCR	LOINC	

Concept Code	Concept Name	Code System	Description
20442-0	HBV DNA # Ser bDNA	LOINC	
29615-2	HBV DNA # SerPl PCR	LOINC	
47216-7	HBV DNA # SerPl PCR DL=200	LOINC	
48650-6	HBV DNA # SerPl PCR DL=500	LOINC	
49365-0	HBV DNA # Tiss PCR	LOINC	
49362-7	HBV DNA # XXX PCR	LOINC	
13126-8	HBV DNA Bld Ql IB	LOINC	
49357-7	HBV DNA CSF PCR-aCnc	LOINC	
49601-8	HBV DNA CSF PCR-Log IU	LOINC	
49367-6	HBV DNA CSF PCR-Log#	LOINC	
49358-5	HBV DNA Mar PCR-aCnc	LOINC	
49602-6	HBV DNA Mar PCR-Log IU	LOINC	
49359-3	HBV DNA Mar PCR-Log#	LOINC	
40459-0	HBV DNA Ser bDNA-Log#	LOINC	
29900-8	HBV DNA Ser bDNA-mCnc	LOINC	
23869-1	HBV DNA Ser Prb-mCnc	LOINC	
11258-1	HBV DNA Ser-aCnc	LOINC	
32686-8	HBV DNA Ser-mCnc	LOINC	
42595-9	HBV DNA SerPl PCR-aCnc	LOINC	
48398-2	HBV DNA SerPl PCR-Log IU	LOINC	
45161-7	HBV DNA SerPl PCR-Log#	LOINC	
29610-3	HBV DNA SerPl Ql PCR	LOINC	
49368-4	HBV DNA Tiss PCR-aCnc	LOINC	
49606-7	HBV DNA Tiss PCR-Log IU	LOINC	

Concept Code	Concept Name	Code System	Description
49361-9	HBV DNA Tiss PCR-Log#	LOINC	
5008-8	HBV DNA Tiss Ql PCR	LOINC	
49360-1	HBV DNA XXX PCR-aCnc	LOINC	
49600-0	HBV DNA XXX PCR-Log IU	LOINC	
49366-8	HBV DNA XXX PCR-Log#	LOINC	
5009-6	HBV DNA XXX Ql PCR	LOINC	
16934-2	HBV DNAp Bld Ql PCR	LOINC	
39006-2	HBV e Ab Fld Ql	LOINC	
5189-6	HBV e Ab Ser EIA-aCnc	LOINC	
22320-6	HBV e Ab Ser Ql	LOINC	
NewCode		LOINC	
13953-5	HBV e Ab Ser Ql EIA	LOINC	
NewCode		LOINC	
5190-4	HBV e Ab Ser RIA-aCnc	LOINC	
22321-4	HBV e Ab Ser-aCnc	LOINC	
5191-2	HBV e Ag Ser EIA-aCnc	LOINC	
NewCode		LOINC	
31844-4	HBV e Ag Ser Ql	LOINC	
13954-3	HBV e Ag Ser Ql EIA	LOINC	
5192-0	HBV e Ag Ser Ql RIA	LOINC	
31845-1	HBV e Ag Ser-aCnc	LOINC	
32178-6	HBV e Ag Titr Ser	LOINC	
39007-0	HBV e Ag XXX Ql	LOINC	
41151-2	HBV e IgG Ser Ql	LOINC	
33463-1	HBV e IgG Ser Ql EIA	LOINC	
32366-7	HBV Gentyp SerPl PCR	LOINC	
48659-7	HBV preC codon 28 Ser PCR	LOINC	
33633-9	HBV preC TAG Mut Ser PCR	LOINC	
NewCode		LOINC	
6421-2	HBV rRNA XXX Ql Prb	LOINC	
42504-1	HBV surface Ab CSF Ql	LOINC	

Concept Code	Concept Name	Code System	Description
21006-2	HBV surface Ab Ser Donr EIA-aCnc	LOINC	
22323-0	HBV surface Ab Ser Donr-aCnc	LOINC	
5193-8	HBV surface Ab Ser EIA-aCnc	LOINC	
22322-2	HBV surface Ab Ser Ql	LOINC	
10900-9	HBV surface Ab Ser Ql EIA	LOINC	
39535-0	HBV surface Ab Ser Ql RIA	LOINC	
5194-6	HBV surface Ab Ser RIA-aCnc	LOINC	
16935-9	HBV surface Ab Ser-aCnc	LOINC	
NewCode		LOINC	
32019-2	HBV surface Ab Titr Ser	LOINC	
50967-9	HBV surface Ag Bld Donr Ql Nt	LOINC	
42505-8	HBV surface Ag CSF Ql	LOINC	
47364-5	HBV surface Ag Ser Donr Ql EIA	LOINC	
5195-3	HBV surface Ag Ser Ql	LOINC	
5196-1	HBV surface Ag Ser Ql EIA	LOINC	
7905-3	HBV surface Ag Ser Ql Nt	LOINC	
5197-9	HBV surface Ag Ser Ql RIA	LOINC	
NewCode		LOINC	
10675-7	HBV surface Ag Tiss Ql ImStn	LOINC	
49177-9	HBV surface IgG Ser Ql	LOINC	
48070-7	HBV surface IgG Ser Ql EIA	LOINC	
43279-9	HBV YMDD Mut SerPl PCR	LOINC	
42506-6	HCV Ab CSF Ql	LOINC	
39008-8	HCV Ab Fld Ql IB	LOINC	
24011-9	HCV Ab Patrn Ser IB-Imp	LOINC	

Concept Code	Concept Name	Code System	Description
48159-8	HCV Ab s/co SerPl EIA-Rto	LOINC	
47441-1	HCV Ab Ser Donr Ql	LOINC	
47365-2	HCV Ab Ser Donr Ql EIA	LOINC	
5198-7	HCV Ab Ser EIA-aCnc	LOINC	
16128-1	HCV Ab Ser Ql	LOINC	
13955-0	HCV Ab Ser Ql EIA	LOINC	
5199-5	HCV Ab Ser Ql IB	LOINC	
22327-1	HCV Ab Ser-aCnc	LOINC	
49846-9	HCV Ag Bld/Mar Donr Ql	LOINC	
44831-6	HCV c100p+5-1-1 Ab Ser Ql	LOINC	
44813-4	HCV C22p Ab Ser Ql IB	LOINC	
22329-7	HCV C33c Ab Ser Ql	LOINC	
9610-7	HCV C33c Ab Ser Ql IB	LOINC	
41996-0	HCV DNA SerPl bDNA-Log IU	LOINC	
42003-4	HCV DNA SerPl bDNA-Log#	LOINC	
48574-8	HCV Gentyp Bld PCR	LOINC	
32286-7	HCV Gentyp SerPl PCR	LOINC	
49607-5	HCV Gentyp Tiss PCR	LOINC	
48575-5	HCV Gentyp XXX PCR	LOINC	
34162-8	HCV IgG Patrn Ser IB-Imp	LOINC	
16129-9	HCV IgG Ser Ql	LOINC	
40726-2	HCV IgG Ser Ql EIA	LOINC	
33462-3	HCV IgG Ser Ql IB	LOINC	
16936-7	HCV IgG Ser-aCnc	LOINC	
23871-7	HCV NS5 Ab Ser Ql IB	LOINC	
49369-2	HCV RNA # CSF PCR	LOINC	
49370-0	HCV RNA # Mar PCR	LOINC	
20571-6	HCV RNA # SerPl bDNA	LOINC	
20416-4	HCV RNA # SerPl PCR	LOINC	
49371-8	HCV RNA # Tiss PCR	LOINC	

Concept Code	Concept Name	Code System	Description
49380-9	HCV RNA # XXX PCR	LOINC	
5010-4	HCV RNA Bld Ql PCR	LOINC	
49377-5	HCV RNA CSF PCR-aCnc	LOINC	
49603-4	HCV RNA CSF PCR-Log IU	LOINC	
49373-4	HCV RNA CSF PCR-Log#	LOINC	
49378-3	HCV RNA Mar PCR-aCnc	LOINC	
49604-2	HCV RNA Mar PCR-Log IU	LOINC	
49374-2	HCV RNA Mar PCR-Log#	LOINC	
10676-5	HCV RNA SerPl Amp Prb-aCnc	LOINC	
29609-5	HCV RNA SerPl bDNA-aCnc	LOINC	
42617-1	HCV RNA SerPl bDNA-Log IU	LOINC	
34703-9	HCV RNA SerPl PCR DL=500-aCnc	LOINC	
34704-7	HCV RNA SerPl PCR DL=50-aCnc	LOINC	
49758-6	HCV RNA SerPl PCR DL=5-aCnc	LOINC	
11011-4	HCV RNA SerPl PCR-aCnc	LOINC	
38180-6	HCV RNA SerPl PCR-Log IU	LOINC	
47252-2	HCV RNA SerPl PCR-Log#	LOINC	
11259-9	HCV RNA SerPl Ql PCR	LOINC	
49379-1	HCV RNA Tiss PCR-aCnc	LOINC	
49608-3	HCV RNA Tiss PCR-Log IU	LOINC	
49375-9	HCV RNA Tiss PCR-Log#	LOINC	
5011-2	HCV RNA Tiss Ql PCR	LOINC	
49376-7	HCV RNA XXX PCR-aCnc	LOINC	

Concept Code	Concept Name	Code System	Description
49605-9	HCV RNA XXX PCR-Log IU	LOINC	
49372-6	HCV RNA XXX PCR-Log#	LOINC	
48576-3	HCV RNA XXX Ql bDNA	LOINC	
5012-0	HCV RNA XXX Ql PCR	LOINC	
22328-9	HCV SOD Ab Ser Ql	LOINC	
11077-5	HCV SOD Ab Ser Ql IB	LOINC	
23870-9	HCV100+5-1-1 Ab Ser Ql IB	LOINC	
22324-8	HCV100-3 Ab Ser Ql	LOINC	
9608-1	HCV100-3 Ab Ser Ql IB	LOINC	
22325-5	HCV22-3 Ab Ser Ql	LOINC	
9609-9	HCV22-3 Ab Ser Ql IB	LOINC	
22326-3	HCV5-1-1 Ab Ser Ql	LOINC	
11076-7	HCV5-1-1 Ab Ser Ql IB	LOINC	
5200-1	HDV Ab Ser EIA-aCnc	LOINC	
13248-0	HDV Ab Ser Ql	LOINC	
40727-0	HDV Ab Ser Ql EIA	LOINC	
5201-9	HDV Ab Ser RIA-aCnc	LOINC	
22330-5	HDV Ab Ser-aCnc	LOINC	
44755-7	HDV Ag Ser EIA-aCnc	LOINC	
33464-9	HDV Ag Ser Ql	LOINC	
44754-0	HDV Ag Ser Ql EIA	LOINC	
43281-5	HDV Ag Ser-mCnc	LOINC	
43280-7	HDV Ag Ur-mCnc	LOINC	
49775-0	HDV IgG Ser EIA-aCnc	LOINC	
35283-1	HDV IgG Ser Ql	LOINC	
35273-2	HDV IgG Ser Ql EIA	LOINC	
51458-8	HDV IgG Ser-aCnc	LOINC	
44826-6	HDV IgM Ser EIA-aCnc	LOINC	
34597-5	HDV IgM Ser Ql	LOINC	
44938-9	HDV IgM Ser Ql EIA	LOINC	
9525-7	HDV IgM Ser-aCnc	LOINC	
7906-1	HDV RNA Ser Ql PCR	LOINC	
49776-8	HEV Ab Ser EIA-aCnc	LOINC	

Concept Code	Concept Name	Code System	Description
13294-4	HEV Ab Ser Ql	LOINC	
51459-6	HEV Ab Ser-aCnc	LOINC	
14211-7	HEV IgG Ser Ql	LOINC	
49693-5	HEV IgG Ser Ql EIA	LOINC	
14212-5	HEV IgM Ser Ql	LOINC	
49777-6	HGV Ab Ser-aCnc	LOINC	
16937-5	HGV RNA Ser Ql PCR	LOINC	
38998-1	HIV 1+HCV RNA SerPl BPU Ql PCR	LOINC	
NewCode		LOINC	
NewCode		LOINC	
NewCode		LOINC	

PHV S_ Observation Interpretation_ HL 7_ V3

Value Set	PHVS_ObservationInterpretation_HL7_V3 - 2.16.840.1.113883.1.11.78
Source	PHIN-VADS
Source URL	http://phinvads.cdc.gov/vads/ViewValueSet.action?oid=2.16.840.1.113883.1.11.78
Definition	Observation interpretation concepts that are based upon HL7 V3 vocabulary.

Concept Code	Concept Name	Code System	Description
A	Abnormal	ObservationInterpretation	
HX	above high threshold	ObservationInterpretation	
LX	below low threshold	ObservationInterpretation	
B	better	ObservationInterpretation	
Carrier	Carrier	ObservationInterpretation	
D	decreased	ObservationInterpretation	
U	increased	ObservationInterpretation	
IND	Indeterminate	ObservationInterpretation	
I	intermediate	ObservationInterpretation	
MS	moderately susceptible	ObservationInterpretation	
NEG	Negative	ObservationInterpretation	
N	Normal	ObservationInterpretation	
POS	Positive	ObservationInterpretation	
R	resistent	ObservationInterpretation	
S	susceptible	ObservationInterpretation	

Concept Code	Concept Name	Code System	Description
VS	Very susceptible	ObservationInterpretation	
W	worse	ObservationInterpretation	

PHV S_ Signs Symptoms_ Acute Hepatitis B

Value Set	PHVS_SignsSymptoms_AcuteHepatitisB - 2.16.840.1.114222.4.11.3213
Code System	SNOMEDCT - 2.16.840.1.113883.6.96
Version	1
Source	PHIN-VADS
Source URL	http://phinvads.cdc.gov/vads/ViewValueSet.action?oid=2.16.840.1.114222.4.11.3213
Definition	Acute Hepatitis B Signs and Symptoms value set is primarily based upon the SNOMED concepts that are defined in the CSTE standardized reporting definition for Acute Hepatitis B.

Concept Code	Concept Name	Code System	Description
84387000	Asymptomatic (finding)	SNOMEDCT	
18165001	Jaundice (finding)	SNOMEDCT	

PHV S_ Socio Behavioral Risk Factor_ CDC

Value Set	PHVS_SocioBehavioralRiskFactor_CDC - 2.16.840.1.114222.4.11.3228
Code System	SNOMEDCT - 2.16.840.1.113883.6.96
Version	1
Source	PHIN-VADS
Source URL	http://phinvads.cdc.gov/vads/ViewValueSet.action?oid=2.16.840.1.114222.4.11.3228
Definition	Socio-behavioral risk factor related to infectious disease.

Concept Code	Concept Name	Code System	Description
160592001	Alcohol intake above recommended sensible limits (finding)	SNOMEDCT	
32911000	Homeless (finding)	SNOMEDCT	
45361006	Imprisonment (finding)	SNOMEDCT	
226034001	Injecting drug user (finding)	SNOMEDCT	
413096007	Never injecting drug user (finding)	SNOMEDCT	

Concept Code	Concept Name	Code System	Description
55211-7	Shared razor, toothbrushes or nail care items:Find:Pt:Patient:Ord:	LOINC	
228395002	Shares drug injecting equipment (finding)	SNOMEDCT	

PHV S_ Vaccine Administered_ Hepatitis B

Value Set	PHVS_VaccineAdministered_HepatitisB - 2.16.840.1.114222.4.11.3219
Code System	Vaccines administered (CVX) - 2.16.840.1.113883.6.59
Version	1
Source	PHIN-VADS
Source URL	http://phinvads.cdc.gov/vads/ViewValueSet.action?oid=2.16.840.1.114222.4.11.3219
Definition	Hepatitis B vaccine value set has Hepatitis B vaccines. This is based upon the Clinical Vaccines Administered (CVX) vocabulary maintained by CDC.

Concept Code	Concept Name	Code System	Description
104	hepatitis A and hepatitis B vaccine	Vaccines administered (CVX)	
30	hepatitis B immune globulin	Vaccines administered (CVX)	
42	hepatitis B vaccine, adolescent/high risk infant dosage Hep B	Vaccines administered (CVX)	
43	hepatitis B vaccine, adult dosage Hep B	Vaccines administered (CVX)	
44	hepatitis B vaccine, dialysis patient dosage Hep B	Vaccines administered (CVX)	
45	hepatitis B vaccine, NOS	Vaccines administered (CVX)	
08	hepatitis B vaccine, pediatric or pediatric/ adolescent dosage Hep B	Vaccines administered (CVX)	

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